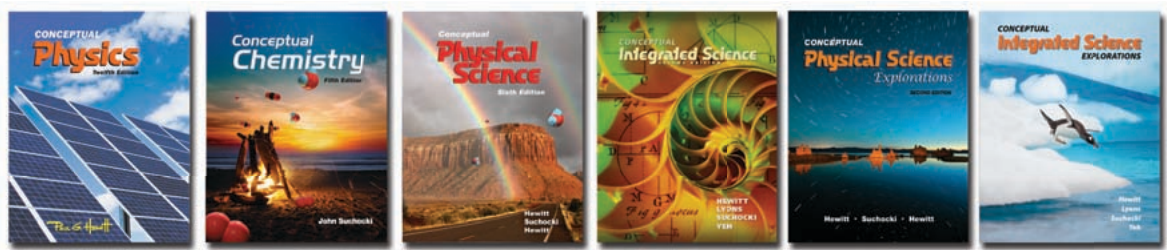


# Conceptual Academy

## *Instructor's User Manual*



Thank you for using Conceptual Academy. This users manual was created as a reference and guide to help you make the most of this student-centered resource.

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## 1. Brief Overview

Conceptual Academy is both a library of content and a platform for the delivery of that content. This platform can be embedded as an iFrame within Learning Management Systems, such as Canvas or Blackboard. However, we find Conceptual Academy works best when made available to students via a link that opens a second browser window or tab.

*Importantly, a student's Conceptual Academy score is uploaded to your LMS only at the end of the semester as a single assignment.* Thus, unlike a homework system, the benefits of integrating Conceptual Academy into your LMS are minimal. Much like the printed textbook, Conceptual Academy works well as a stand-alone resource. Indeed, the quickest way to describe Conceptual Academy is as the “video textbook” or v-textbook.

And much like the traditional textbook, Conceptual Academy is a valuable tool for many teaching styles. For a straight lecture class, Conceptual Academy provides a “stereoscopic” view of the content for students, anytime anywhere—even on bad weather days. Further, precious class time can be focused on the more challenging concepts. For a class of team-based learning, Conceptual Academy is a means by which students can come to class prepared for student-centered activities. For an online class, Conceptual Academy serves as a centerpiece of online content delivery with its library of video tutorials complementing the written textbook.

How does Conceptual Academy work? How will Conceptual Academy be of help to my teaching? What am I to do next? We try to answer these very questions within this instructor's users manual. Thank you for taking the time to review our explanations.

**From the start:** When you sign into your instructor's account, you are first brought to your instructor's profile page. From this profile page you will see a series of tabs. You access the instructor tools available to you through each of these tabs.

- Click the “Edit” tab to update your profile information, including your profile image. Please note, your profile image will appear at the top of every FYI page (From Your Instructor). Consider a school logo if you don't want your face to appear. Also note, the “biography” information is not seen by students. Instead, we use this field to provide the user with links to various help resources first seen on the profile page.



## Dean Baird

**Institution:**

Rio Americano

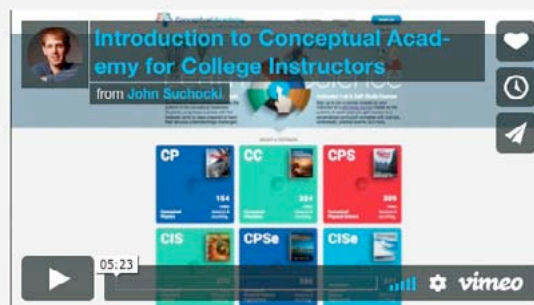
**History:**

 Member for:  
 3 years 7 months

**Profile Page (Instructor)**

Click the "My Courses" link to enter a true student view. Click the "Course Admin" tab to manage your courses and to access their grade books. Click the "FYI Page Builder" tab to edit your FYI pages.

Below is the "Introduction for Instructors" video found at our support site: [ConceptualAcademy.Gallery.Video](#). We recommend you also review our [Frequently Asked Questions](#) page. For support, write to [Support@ConceptualAcademy](mailto:Support@ConceptualAcademy).



- Click the “FYI Page Builder” tab to edit any of your pre-populated From Your Instructor (FYI) pages. An FYI page holds information that remains fairly static from one term to the next. This includes generic study advice, external links, PhET simulations, documents for download, and supplemental videos of your own.
- Click on the “Course Admin” tab to access the course grade book and course editor through which you can edit the contents of each lesson and set lesson dates.
- Click the “Quizzes” tab to set the number of points students earn on each question before and after the lesson dates, which serve as due dates. We highly recommend a 2/1 system, which means 2 points per question before the lesson date and 1 point per question (50%) after the lesson date.
- For now you can ignore the “Syllabus Builder” tab, which holds more advanced tools including the tools for creating a Conceptual Academy course from scratch.





## 2. FYI Pages (From Your Instructor)

Click the “FYI Page Builder” tab. This brings you to a list of your many FYI pages. Click “edit” for a particular lesson (aka class) and you’ll be brought to its editor:

View

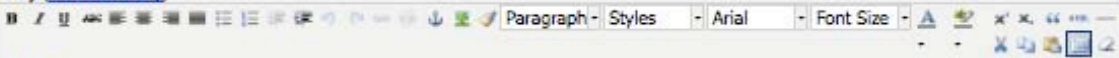
Edit

Enable this FYI  Disable this FYI 

**From Your Instructor Message**

☒ Display Bio photo

Body [\(Edit summary\)](#)



Welcome to our Chemistry course as hosted by Conceptual Academy.

For directions on how to navigate through this site, scroll down to the video in the Video Share.


All the quizzes here at Conceptual Academy will serve as a single semester-long 600 point project. Each correct question answered by the lesson date (shown to the left) is worth 2 points. Each correct question answered AFTER the lesson date is worth only 1 point (50%). So you can earn points twice as fast if you don't fall behind. **Collect a total of 600 points by the end of the semester and you'll have 600/600, which is 100% on this project.** There's no penalty for wrong answers. Just keep taking quizzes to earn points. If you earn over 600 points, this is evidence of strong class participation. But keep in mind that each quiz can be attempted only once. This material is accessible. But only if you keep with it and avoid trying to cram it all in the night before the exam. Please do your best to stay on task.


As per the syllabus, this Conceptual Academy project accounts for 20% of your overall course grade. But you will find Conceptual Academy to be a key study tool allowing you to perform better on the exams, which account for 80% of your overall course grade.

The textbook is where you can read. Conceptual Academy is the "talking textbook" where you can watch and listen. Both of these should be your focus outside of the classroom. You'll use them to help you prepare for coming to class, where we'll be using another

Path: p.MsoNormal > span

Text format 

Full HTML 

[More information about text formats](#) 

- Web page addresses and e-mail addresses turn into links automatically.
- Lines and paragraphs break automatically.

**Document Sharing**

Document Sharing

File information

Operations



CC5e01Page  
s.pdf

REMOVE



CC5eSum01.  
pdf

REMOVE

Attach media  
[Browse](#)

[Show row weights](#)

**Video Sharing**

Video Sharing

Video URL

SAVE



Importantly, any changes you make are only saved if you click the “SAVE” button at the bottom.

From the top, be sure that your page is “enabled” and indicate whether you want your profile image displayed.

The text box can be expanded by dragging the lower right-hand corner of the text box downward. Text you enter here is full HTML5 capable, which means you can add links to external sites or images. You’ll also see an html button in the header. This opens up an html code popup box allowing you to add html snippets. For example, this is how the PhET simulations are added to the FYI pages.

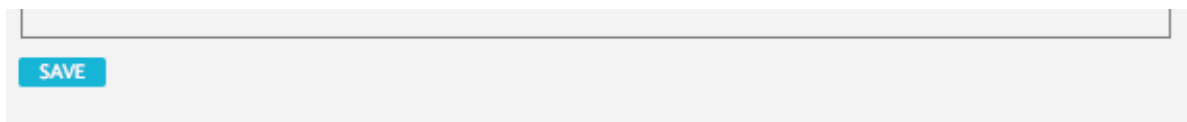
The Document Sharing (Doc Share) allows you to upload documents of a variety of extension types. You can also remove documents. For example, you might want to remove the unit practice exams we might have uploaded to the last FYI page of each unit.

The Video Sharing field allows the sharing of one video per FYI page. This video needs to be hosted on a server, such as YouTube or Vimeo. If you have more videos to share, you can also place them into the body of the FYI page using the html snippet.

Remember to click the SAVE button after making your changes.

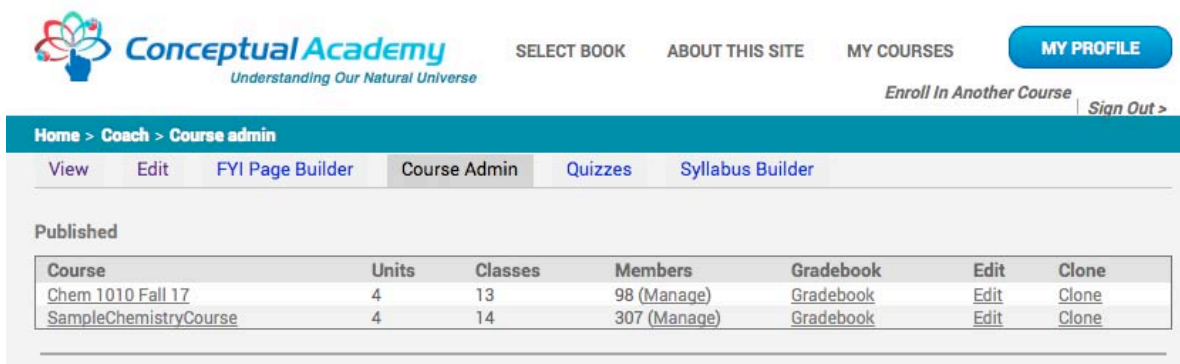
We should note that this editor is not 100% WYSIWYG. It’s a good idea to double check the published FYI page to make sure the formatting is as you wish. In some cases, you might want to revisit the editor to fix any formatting issues, such as line spacing or font size.

SAVE!

A screenshot of a web editor interface. It features a large, empty text input box with a thin border. Below the text box, on the left side, is a blue rectangular button with the word "SAVE" in white capital letters. The entire interface is set against a light gray background.

### 3. Course Admin

Click the “Course Admin” tab and you’ll be brought to a list of all your presently published courses. Please note, a course automatically unpublishes itself 5 weeks after the final lesson date. Please contact us if you wish to have a previously published course re-published.

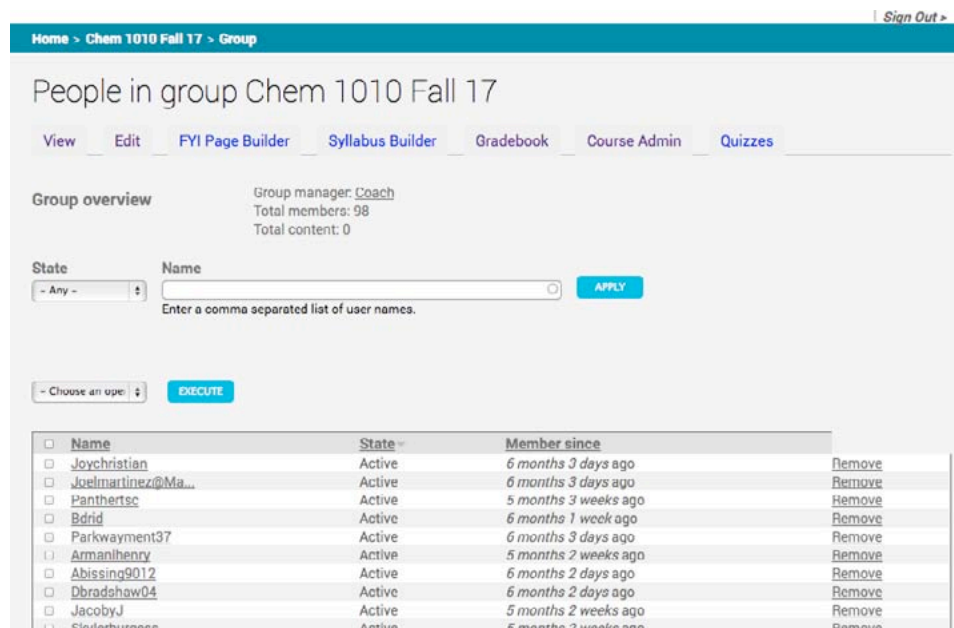


The screenshot shows the Conceptual Academy website header with the logo and navigation links: SELECT BOOK, ABOUT THIS SITE, MY COURSES, and MY PROFILE. Below the header is a breadcrumb trail: Home > Coach > Course admin. The Course Admin tab is selected, showing a table of published courses. The table has columns for Course, Units, Classes, Members, Gradebook, Edit, and Clone. Two courses are listed: Chem 1010 Fall 17 and SampleChemistryCourse.

Course	Units	Classes	Members	Gradebook	Edit	Clone
Chem 1010 Fall 17	4	13	98 (Manage)	Gradebook	Edit	Clone
SampleChemistryCourse	4	14	307 (Manage)	Gradebook	Edit	Clone

Click the name of the course and you’ll be brought to the true student view. You can also enter your course by way of the “My Courses” link in the main menu.

Click the “Manage” link under members and you’ll be brought to a list of all currently enrolled students. It’s here that you can remove a student from your course. It’s also here that you can change the status of a student from “pending” to “active”. The pending status occurs when a student enrolls in your course through some back door pathways, which we have as a catch-all for students who neglect to enter sufficient data on our main registration page. Use the “Choose an Operation” drop down to change a student’s status. It’s a two step “execution” process to make sure you’re sure. Same with the removal of a student.



The screenshot shows the 'People in group Chem 1010 Fall 17' page. It includes a group overview with the group manager 'Coach', total members '98', and total content '0'. There are filters for State (Any) and Name. Below the filters is a table of students with columns for Name, State, Member since, and a Remove link. The table lists 10 students, all with an 'Active' status.

Name	State	Member since	Remove
Joychristian	Active	6 months 3 days ago	Remove
Joelmartinez@Ma...	Active	6 months 3 days ago	Remove
Pantherstc	Active	5 months 3 weeks ago	Remove
Bdrid	Active	6 months 1 week ago	Remove
Parkwayment37	Active	6 months 2 days ago	Remove
Armanlhenry	Active	5 months 2 weeks ago	Remove
Abissing9012	Active	6 months 2 days ago	Remove
Dbradshaw04	Active	6 months 2 days ago	Remove
JacobyJ	Active	5 months 2 weeks ago	Remove
Sivlierburness	Active	5 months 2 weeks ago	Remove






## 4. The Grade Book

With simplicity in mind, we left out an instructor's ability to drill down to see how a student performed on individual quiz questions. Please contact us if a student believes their score on a particular quiz needs to be adjusted. This can happen if the student finds an error in our test pool. We aim for a perfect test pool, but because it's so large, errors do occur, usually due to missed keystrokes.

The main data that will be important to you is the overall “Total Points Earned” for each student from both the reading and video quizzes. You can click on the Reading Check and Video Check tabs to see point totals for each of these quiz types.



**Conceptual Academy**  
*Understanding Our Natural Universe*

[SELECT BOOK](#)
[ABOUT THIS SITE](#)
[MY COURSES](#)
[MY PROFILE](#)

[Enroll In Another Course](#) | [Sign Out >](#)

[Home > Chem130 Fa18 > Gradebook > Grade book](#)

## Chem130 Fa18 grade book

[View](#)
[Edit](#)
[Gradebook](#)

[Total Points Earned](#)
[Homework](#)
[Reading Check](#)
[Video Check](#)

Student	Points Earned
1188045, Deshayne Hogue	789
Alexander, Deshayne	5
Alexander, Anthony	194
Alexander, Raleigh	504
Allen, Zachary	354
Allen, Nathan	363
Andres, Lauren	318
Arnold, Katie	539
Alexis, Alexa	29
Barker, Brian	338
Barker, David	450
Bark, Christian	75
Barnbrook, Leslie	500
Brown, Matt	28
Chase, Caroline	20
Chen, Shao	48

CSV


Scroll to the bottom of the grade book view and you will see an export CSV button, which is useful for large enrollment classes. You may need to tab or space delimit the data in your spreadsheet application. Rather than exporting as a .csv, you can also just copy/paste the data from the table into your spreadsheet, which is handy for small enrollment classes.

Downloading this data need only be done at the end of the semester for the student's final score on their Conceptual Academy project. However, you might find yourself downloading the data at times during the semester as a progress report. For example, you might generate a bar graph to share with students so they can see how they're doing as a class. It's also useful to scatter plot CA points against an exam score. With a large class you'll find a rough correlation between the two. Mostly, such plots are useful for flagging students who have been putting in a lot of energy into their reading and video assignments, yet are not earning reasonable exams scores.



Click on a student's name and you'll access the details of their performance on the reading and video quizzes, as well as the homework practice sessions. A student's performance per unit is also available. The unit scores are useful in cases where you want to see how the student collected points over the semester. If you see an even distribution of points earned per unit, then you're looking at a diligent student. If a student has waited till the end of the semester to collect points, then the unit view will show this. This is handy in cases of a borderline grade.

### Per unit totals



**Conceptual Academy**  
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SELECT BOOK ABOUT THIS SITE MY COURSES **MY PROFILE**


Enroll In Another Course | Sign Out >

Home > michelle > Gradebook

Total Points Earned Reading Check Video Check

Course	Points Earned
A: Elements of Chemistry	204
B: Bonding and Reactions	258
C: Chemistry of Life	439
D: Chemistry Topics	366

### Detailed data for Reading Check Quizzes



**Conceptual Academy**  
Understanding Our Natural Universe

SELECT BOOK ABOUT THIS SITE MY COURSES **MY PROFILE**


Enroll In Another Course | Sign Out >

Home > michelle > Gradebook

Total Points Earned Reading Check Video Check

Units	Quizzes (completed)	Points Earned (for quizzes taken)	Points Possible (for quizzes taken)	Percentage (for quizzes taken)	Quizzes (available)	Points Possible (all)
All Units	12	175	416	42.07%	13	122
A: Elements of Chemistry	4	31	76	40.79%	4	38
B: Bonding and Reactions	3	24	58	41.38%	3	29
C: Chemistry of Life	3	66	180	36.67%	3	30
D: Chemistry Topics	2	54	102	52.94%	3	25

### Detailed data for Video Check Quizzes



**Conceptual Academy**  
Understanding Our Natural Universe

SELECT BOOK ABOUT THIS SITE MY COURSES **MY PROFILE**

Enroll In Another Course | Sign Out >

Home > michelle > Gradebook

Total Points Earned Reading Check Video Check

Units	Quizzes (completed)	Points Earned (for quizzes taken)	Points Possible (for quizzes taken)	Percentage (for quizzes taken)	Quizzes (available)	Points Possible (all)
All Units	188	1092	1860	58.71%	201	603
A: Elements of Chemistry	60	173	360	48.06%	62	186
B: Bonding and Reactions	53	234	318	73.58%	53	159
C: Chemistry of Life	44	373	624	59.78%	44	132
D: Chemistry Topics	31	312	558	55.91%	42	126





## 5. Course Editor and Cloning

The Course Editor (accessed from the Course Admin tab) is used primarily to set the dates of each lesson. Each of these dates is also the due date for the quizzes. There are two steps to this editor. The first step allows you to modify basic course information. The second step allows you to dig into the details of the course content, such as what chapter sections are linked to what unit lessons.

Removing a chapter section from a lesson is fairly easy. Because this editor is still a bit clunky (this is our first rendition), adding a chapter section, or a new class, or a new unit can be tricky. Please let us know if you need any assistance. With further support, we look forward to being able to afford a revised and more user friendly course editor.

This screenshot shows the 'Step 1' interface of the Course Editor. It includes fields for 'Number of units' (set to 4), 'Syllabus' (Chem 1010 Fall 17), 'Country' (United States), 'State / Province' (Utah), and 'Course ID' (Chem10105). A 'NEXT STEP' button is at the bottom right.

This screenshot shows the 'Step 2' interface of the Course Editor. It displays a table of units and classes, a 'Unit name' field, a 'Date' field, and a 'Select Chapter' dropdown. A 'CHAPTER SECTION LIST' is also visible on the right.

Unit	Class	Date	Weight	Content
<input type="checkbox"/> A: Elements of Chemistry	1	09-03-2017	1	<a href="#">View/Edit</a>
<input type="checkbox"/> A: Elements of Chemistry	2	09-06-2017	2	<a href="#">View/Edit</a>
<input type="checkbox"/> A: Elements of Chemistry	3	09-13-2017	3	<a href="#">View/Edit</a>
<input type="checkbox"/> A: Elements of Chemistry	4	09-21-2017	4	<a href="#">View/Edit</a>
<input type="checkbox"/> B: Bonding and Reactions	1	10-01-2017	1	<a href="#">View/Edit</a>
<input type="checkbox"/> B: Bonding and Reactions	2	10-11-2017	2	<a href="#">View/Edit</a>
<input type="checkbox"/> B: Bonding and Reactions	3	10-20-2017	3	<a href="#">View/Edit</a>
<input type="checkbox"/> C: Chemistry of Life	1	10-29-2017	1	<a href="#">View/Edit</a>
<input type="checkbox"/> C: Chemistry of Life	2	11-12-2017	2	<a href="#">View/Edit</a>
<input type="checkbox"/> C: Chemistry of Life	3	11-17-2017	3	<a href="#">View/Edit</a>
<input type="checkbox"/> D: Chemistry Topics	1	11-29-2017	1	<a href="#">View/Edit</a>
<input type="checkbox"/> D: Chemistry Topics	2	12-06-2017	2	<a href="#">View/Edit</a>
<input type="checkbox"/> D: Chemistry Topics	3	12-11-2018	3	<a href="#">View/Edit</a>

Cloning, however, is a piece of cake. After clicking the “clone” link for a particular course, enter a new course name and a new Course ID. Click the clone button. You’ll need to wait about two minutes as the database updates quite a bit of data. All the modifications you made to the original course will be included. After a successful clone, your next step is to visit the course editor and modify the dates for the subsequent term. The cloned course is then ready for a fresh batch of students. You’ll need to give these students the new Course ID you created. The shorter the Course ID, the better. But all Course IDs must be unique.

This screenshot shows the cloning interface. It includes a 'Title of Syllabus' field, a 'Course ID' field, and a 'Clone' button. A note below the Course ID field states: 'Enter an identifying alpha numerical course ID (no spaces or special characters) that your students can use to register for your course. For example: SMOChem101Fa14'.



## 6. The Conceptual Academy Student Project

It works well to refer to Conceptual Academy as a semester-long “project” rather than as “homework”. The essence of this project is for the student to keep up with their reading and video assignments. They are provided credit for doing so by way of Conceptual Academy’s reading and video quizzes. Students can also earn credit through our “Homework Practice Sessions” (HPS), which we describe in more detail later in this users manual. Briefly, an HPS is a practice exam that goes on for as long as a student might wish.

Each student is given the task of collecting a certain number of points by the end of the term, or by the end of each unit as determined by the instructor. You’ll find “by the end of the term” much easier to implement. For a typical course there are well over 2000 questions available to the student. These questions are automatically collated to your class schedule by our tagging system.

As a starting point, we recommend you require your students to earn 500 Conceptual Academy points by the end of the term. Each correct answer before the lesson date earns the student 2 points. After the lesson date, the student can only earn 1 point (50%). We call this a 2/1 system. As the instructor, however, you can set these point values as you see fit through the “Quizzes” tab from your instructor’s profile page. You can even change the values on the fly during the semester. For example, you might offer a “triple week” when you feel the students are deserving or as warranted. For an announced 7 days, you change the settings to 6/1 so that a student earns triple points for each correct answer before the lesson date. As described in our Handbook of Class Activities, this is just one of the creative ways you can use the Conceptual Academy point system to help encourage your students to stay on task. The goal is simply to provide students credit for staying on task. All diligent students should be able to earn full credit on their Conceptual Academy project.

**Note:** In changing a quiz point setting you are only changing the rate at which students earn points for upcoming quizzes they take. There’s no effect on points earned from quizzes already taken. Also note: Each quiz can only be taken once. For a student repeating the course, they need to write to [Support@ConceptualAcademy.com](mailto:Support@ConceptualAcademy.com) to have their quizzes reset.

With a 2/1 system, even if it’s past the lesson date, students can still earn credit for earlier lessons, though at only 1 pt per question. This provides a built in flexibility that students appreciate. Yet, they are also rewarded for staying on pace, which earns them 2 pts per



question. Students also appreciate having that “due date” incentive. This Conceptual Academy student project is a fully online project and should be worth around 10% to 30% of the overall course grade. But of course, even with this point system, students will need periodic encouragement from the instructor to remain on task. Posting a recent class bar graph helps in this regard.

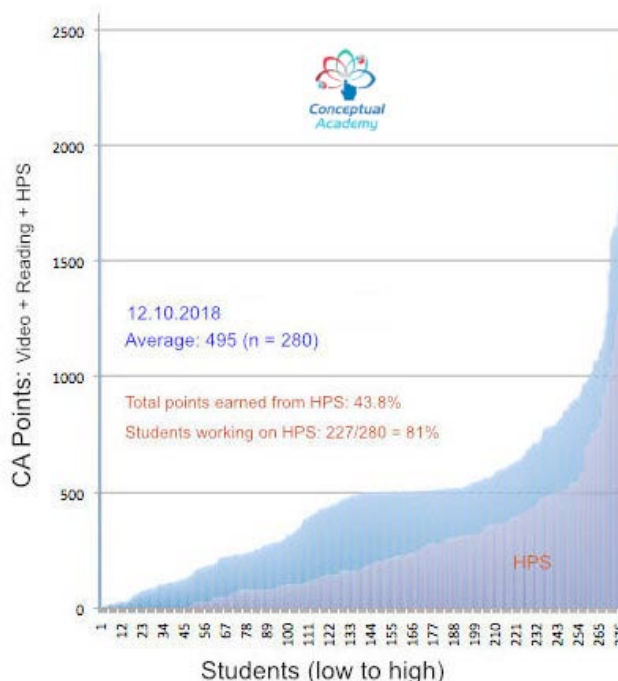
You might also consider setting a “point threshold” for each *unit*. For example, you might require each student to earn 100 points for each unit. All students who earn this 100 points (or more) receive full credit (100%). This method helps to minimize cases where the student doesn’t start into their Conceptual Academy project in earnest until a week before the end of the term, which is too late to be able to catch up at a rate of only 1 point per correct question and given that each quiz can only be attempted once. However, assigning a threshold for each unit also means more work for you, the instructor. Rather than holding students accountable to each unit, there are other things you can do to assure student compliance throughout the semester, such as:

- Require a student to earn at least 30% for points to count toward the total. For example, if a student earns 392 points from the HPS, but has an average of only 20% on the HPS (because of random guessing), then those 392 points won’t count toward the point total.
- Set a 2/0 system so that students can no longer earn points after the lesson date. We generally advise against this, but it is a way to add more “stick” to an otherwise “carrot” approach.
- Review point totals every couple weeks to flag students who are not on task. Then approach those students to see how you might help them to overcome any barriers they may be facing.

We have found the Conceptual Academy points to be a quantitative measure of student attitude, rather than aptitude. Thus, as you review student scores during the semester, you'll have a gauge on which students need your added attention. For some perspective, below is a bar graph of point totals for a chemistry class of college liberal arts majors in Fall 2018. The shape of this bar graph is typical of what we see across campuses and shows the broad spectrum of student study habits. Notably, it also shows how many students choose to exceed the point threshold even though doing so offers no point benefit.



You should find it no mystery that students typically prefer our video presentations over our textbook paragraphs. However, both the videos and the paragraphs are important, which is why Conceptual Academy provides students credit for both video AND reading assignments. All this to ensure students come to class prepared to learn.



## 7. Conceptual Academy Assessment Types

There are three types of quizzes available through Conceptual Academy. This includes the Reading Quizzes, the Video Quizzes and the Homework Practice Sessions.

### *Reading Quiz*

A set of easy-to-answer questions collated from the chapter sections of each lesson. There is one “lesson reading quiz” for each lesson. These are designed to provide the student credit for having studied the paragraphs of the textbook. In many cases, the question is printed right within the margin of the textbook while the answer is highlighted within the paragraph. The “Reading Check” question at Conceptual Academy is the multiple choice version of that question.

### *Video Quiz*

A set of easy-to-answer questions relating to a particular video. Each video has a video quiz consisting of one to three questions. These questions focus on the content of the video, which will be similar to the content of the corresponding textbook chapter section. In most cases, a student who has studied the textbook chapter section, may be able to do well with the video quiz without watching the video. This is by design to minimize any busy work. We don’t want the student watching the video if they don’t need to watch the video. Similarly, the student might be able to do well on a lesson reading quiz without reading the textbook but after watching all the videos. Ideally, a student works with both the textbook and the videos, which together provide the student a stereoscopic view of the material.



### *Homework Practice Session (HPS)*

There is one Homework Practice Session (HPS) for each lesson. The HPS is an important follow-up activity for the student after having studied the reading and video assignments for that lesson. The questions of the HPS are relatively difficult. Plus there are many of these questions—sometimes over 100 in a single session.

The goal of a homework practice session is PRACTICE. The HPS system provides ample opportunity for exactly that. We liken it to practicing basketball. While practicing on the court, the basketball player should be taking chances, making mistakes, and learning from those mistakes. While practicing, the player should not be limited in the number of shots they're allowed to throw. Also, the player should only practice for as long as is efficient. Push themselves, yes, but not to the point of exhaustion. When efficiency is lost, it's best for the student to stop and take a break. Come back later to practice again while fresh.

The same holds true for the Homework Practice Session in which the student is encouraged to take chances, make mistakes, and learn from those mistakes. A session should go for as long as is reasonable for that student, which can vary from day to day. For each correct answer, 2 points are earned. They'll also hear a rewarding clicker sound. There's never a penalty for any wrong answer. There's no penalizing buzzer either, just silence.

Each question is first presented in a short answer format. The student's free response is not graded, nor recorded in any database. Rather, it serves as a warm up to the multiple choice version of that question, which always comes next.

If a student is averaging about 55% on a set of HPS questions, then this is admirable. It shows they're trying to answer the questions without first looking up the answer, which is good. It also shows that the student isn't simply random guessing. Look out for those students who are simply random guessing, which tends to happen with students who have put off this assignment to the end of the semester.

Students should also be encouraged to work with others on their HPS questions, which make for an excellent study group activity. You should also consider having students work in teams on their HPS questions right during class. Direct them to a round robin format where one student at a time presents their question to teammates for advice. This works particularly well in that all HPS questions are delivered randomly. This means that students working together will see different questions on the same topics. Do this toward the beginning of the semester so that students quickly learn the value of their Homework Practice Sessions.

## **8. Conceptual Academy as an Optional Resource**

The number one of concern of most students is “How do I earn points?” If you make Conceptual Academy purely optional, very few students will use it. Just like if you made homework purely optional, that wouldn't happen either, except for a select few unusually motivated students. Thank you for requiring students to earn points at Conceptual Academy. In many ways, this levels the playing field for all students.



## 9. Conceptual Academy as a Homework System

Conceptual Academy is a platform for the “video-textbook”. The v-textbook mirrors the traditional textbook featuring videos rather than paragraphs. At the back of each chapter of the written textbook you’ll find the “end-of-chapter” questions (EOC). Likewise, at the end of each Conceptual Academy lesson, you’ll find a Homework Practice Session (HPS). Both the EOC and HPS help to solidify student understanding. They help the student to prepare for an upcoming exam. A main difference is that the grading of the HPS is automated.

Just as you might assign the EOC for homework, you can assign the HPS for homework. Here are two potential scenarios:

Scenario A: You might lump the HPS points with the reading and video quiz points while making the Conceptual Academy project worth a more significant portion of the overall course grade, such as 30%.

Scenario B: You might segregate the HPS points from the reading/video quizzes. For example, you might make the reading/video quizzes worth 10% of the overall course grade, while making the HPS worth 20% of the overall course grade. From the Conceptual Academy gradebook, you’ll note how the HPS scores can be exported independently from the reading/video quiz scores.

A typical online homework system from a major publisher is nicely automated and it nicely holds students accountable. However, such a system can also be sterile and onerous given that a student typically works alone in an environment that penalizes them for not yet fully understanding the concepts. This can be counter productive when our main goal is to inspire our students who are already science-shy.

The e-textbook is usually embedded within these penalty based systems. At first thought, this might seem like a good idea. But what’s the first thing your student does upon signing into such a system? We find that rarely does the student go straight to the paragraphs of the e-textbook. Most often, the student goes straight to the homework problems, which are presented up front in this assessment-centric environment. The student attempts these problems before having any foundation of understanding. The result is much frustration.

Conceptual Academy, by contrast, is video-centric. The videos are presented up front. The Homework Practice Sessions themselves are presented as though they are an after-thought—much like a healthy dessert. Student’s come to embrace their homework because they don’t





see it as homework. They see it for what it is: A chance to practice freely for their own self improvement. Like practicing for basketball. Let your exams play the roll of measuring a student's level of understanding. Let homework play the roll of helping students to work toward that level of understanding. We believe that penalizing students as they practice for the big game makes little sense. Rather, students should earn credit for their hard fought pre-game efforts on the court. Of course, as quantitated by Conceptual Academy's point system, not all students will fight equally as hard.

### **10. Step 1 / Step 2 Learning**

As described in our Handbook of Class Activities, we are advocates of "Step 1/Step 2" model of learning. Step 1 is where the student is being introduced to material, such as through the textbook and video tutorials. Step 1 is an input process. You'll note the mouth is closed. Step 2 is an output process where the student tries to articulate (output) that which they think they learned from Step 1 through activities such as presentations and homework. Of these two steps, Step 2 is arguably the more difficult. Students tend to avoid Step 2 or neglect its importance. Learning, however, is only deep and durable when BOTH Step 1 and Step 2 have been employed. For students, these ideas are explored much further in our "How to Study Effectively" document. We place this guide to studying within the Doc Share of the first FYI page of each Conceptual Academy course.

### **11. Practice Page Worksheets**

These are pencil-pushing minds-on activities available in most all Doc Shares. In a way, they are similar to a lab experience, except it's all on paper (Analog!). Our goal in creating these Practice Pages is to provide an enjoyable venue through which the student can *apply* what they think they understand. Please note: It's not like the student already understands something and then should be able to do the worksheet. It's the other way around. The understanding evolves only when the student is working on the worksheet.

This is similar to the end-of-chapter questions and the HPS. The student may ask: How can I answer these questions if I don't first understand the material? They have it backward. The



real question is: How can you understand the material if you don't first work on these questions? The understanding itself arises from working on the questions. After Step 1? After reading the book and watching the videos? Some students feel they "got it" and simply don't need to go any farther. Wrong! A stronger student will sense they still don't really understand. That's correct. That's a wise student. An even wiser student knows that the understanding will grow like a seed from the soil only when watered by a stream of well-placed questions (Step 2). This is all "formative".


We should note that many of our courses also feature Paul Hewitt's "Next-Time Questions" that students will also find in the Doc Share of many FYI Pages. You might consider featuring select NTQ for class time discussions.

CONCEPTUAL Physics

## NEXT-TIME QUESTION

As she falls faster and faster through the air, her acceleration

- a) increases.
- b) decreases.
- c) remains the same.



NEWTON'S SECOND LAW



## **12. Collaborative Unit Exams**

In the Doc Share of the last FYI page of each unit, students may find a unit practice exam, typically about 20 questions long—all multiple choice. Answers are provided on the last page of this downloadable document. You might simply alert your students as to their existence and encourage your students to work on these practice exam within study groups. Alternatively, you might remove them from your FYI pages and instead use them for in class practice exams. We recommend using the pyramid exam format as described in our Handbook of Class Activities. This exam format is very well received by students when provided as a practice exam, as well as for the actual exam. Thank you for reviewing our Handbook of Class Activities, which you will find as a link within your Conceptual Academy instructor profile page.

## **13. Putting It All Together**

Conceptual Academy is a system of content delivery with encouragement-based assessments. In using this system, students are provided credit for staying on task. This improves the rate at which your students come to class prepared to learn. In turn, this provides you license to use class time to focus on the more challenging concepts. It also provides you the wiggle room to explore more class activities where your students are engaged with the content, yourself, and their classmates.

However, you should also be encouraged to change nothing about the way you teach. If you've been teaching for a number of years, you've already keyed into techniques that work quite well for your personal teaching style. If you make any changes, if you do, then keep them minimal. Of course, when we try to change too much at once, we risk everything falling flat on its face. A few small changes from one semester to the next is the best practice. Evolution, not revolution, is the best route to healthy professional development. Slow, methodical, yet successful progress keeps our teaching careers fresh and exciting—the opposite of burn out. This benefits not only ourselves but our students too.

We know you will find your Conceptual Academy course to be rich not only in content but in flavor. For students who use our resources, our goals go beyond imparting knowledge. Like you, we aim to nurture a life-long curiosity about this amazing natural world in which



we are blessed to live. We know this to be an important path to becoming good stewards. Further, the rules of nature are what we all have in common. As this world gets smaller, a focus on what we have in common becomes all the more important. Further still, understanding science for what it is, for what it can do, for what it can't do, for how it, for better or worse, has impacted our daily lives, is critically important for any student in this modern age.

We are please and honored to be working with you. For any questions, please write to [Support@ConceptualAcademy.com](mailto:Support@ConceptualAcademy.com). Thank you for your support. Good science to you!

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