DIVE Chemistry eLearning Course
Teacher's Guide

This file is a Google document that can be downloaded by clicking File (in the upper left menu), Download As, then PDF. If you are a Google Drive user, you can upload the PDF to your Google Drive Account.

Parents: Login & Setup Instructions

While this course provides instruction, grading, and Q&A support, a parent must supervise the student to ensure assignments are completed as instructed and to monitor student progress.

1. **Parents: Watch the** Getting Started video **video with your student.**
2. Read the Labs section. If you choose to use either the DIVE Lab Kit or your own lab supplies, you must follow these instructions for every lab: Instructions and Supply List for Hands-on Labs
3. Print and/or save these: Printable Files (Lab Workbook, Exam Study Sheet, etc)
4. Select a Reading Supplement
5. If planning to take the AP Chemistry exam, read Advanced Placement
6. To ensure you receive important emails from us, add these email addresses to Contacts in the parent/teacher and the student email account: noreply@educadium.com and support@diveintomath.com
7. Read Pages 4-13.
8. Bookmark, save, or print this Teacher's Guide.
9. See: How to Login to the eLearning Campus

Need help? Contact Us!

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Welcome!

DIVE Chemistry is a complete, digital curriculum that can be used as an honors or standard high school course. Below you will find a brief overview of the course components. At the end is a step-by-step guide to setting up your course. You can either save these instructions to your desktop so you can access the live links or print the instructions.

Honors or Standard High School Course

DIVE Chemistry can be used as an honors or a standard high school course.

> **Honors Course:** Take the exam as instructed under "Honors Course" on the Student Exam Study Instructions and use the Honors Grade Scale (in the Grades section below).
>
> **Standard High School Course:** Take the exam as instructed under "Standard Course" on the Student Exam Study Instructions and use the Standard Grade Scale (in the Grades section below).

Course Description

DIVE Chemistry is a complete, college preparatory chemistry course, anchored in Christ. Including topics like atomic and molecular bonding, chemical reactions and equations, stoichiometry, gas laws, solutions, thermodynamics, chemical equilibrium, oxidation/reduction reactions and electrochemistry, organic chemistry, biochemistry, and nuclear chemistry. Along with our prep course, DIVE Chemistry provides excellent preparation for CLEP and AP Chemistry exams.Weekly labs emphasize important techniques used by chemists, including chromatography, colorimetry, spectroscopy, electroplating, and titrations. All required AP labs are included. Upon completion, students will be adept at working with the scientific method, developing lab skills that are above and beyond most of their peers. Most importantly, students will have a better understanding of the laws God has woven into Creation and the rich Christian heritage that exists in science.

High School Credit

Honors: 1 Chemistry with Lab
Standard: 1 Chemistry and with Lab
Learn More: Transcript, Course Description, Credits

Earn up to 8 College Credits

After completing DIVE Chemistry, we recommend Dr. Shormann's CLEP Professor for CLEP and AP Chemistry. This three to six week course provides excellent preparation for these exams which can earn up to 8 college credits. Learn more about AP exams here and CLEP exams here.

Schedule

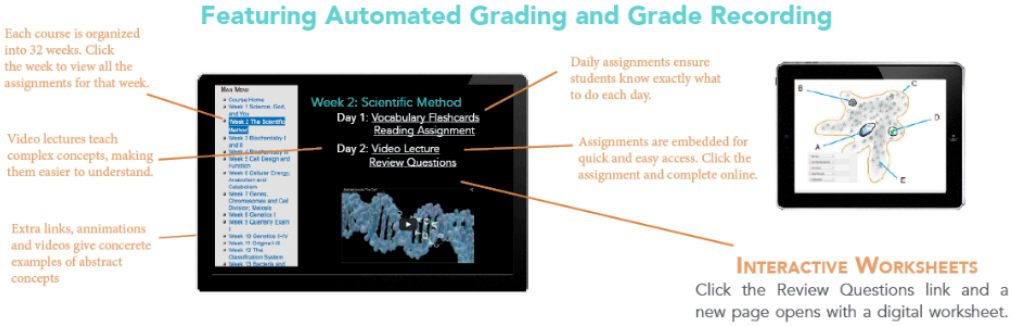
Timed Method: A standard school year is 36 weeks and your course subscription is 52 weeks (12 months). While the course is set up on a 32 week schedule, it is designed to be self-paced. Instead of requiring the student to complete all assigned work for one day, have them work on science four days per week for 1 to 1.5 hours per day*. At the end of that time, regardless of how much of the lesson is completed, stop. Then have the student pick-up where they left off the next day. This allows students to slow down when needed to grasp a concept and move ahead faster when the content is easier for them. Most students will easily complete the course in 36 weeks or less. If more than 12 months is needed, simply extend your subscription here.

*For an honors course, plan on 1.5 hours per day 4-5 days per week. For a standard course, 4 days per week for an hour per day.

Course Components

Integrated Assignment Chart

A daily assignment chart is integrated into the eLearning course. On the left menu, the course is organized by week. Click on a week and all the assignments for the week are listed by day. There are typically two to three lessons per week and a video lab. Every 8 weeks a quarterly exam is completed. Be flexible! A standard school year is 36 weeks. If your student needs extra time, don't be afraid to give it to them.



Lessons

Each lesson is made up of 4 parts: Terms, Reading, Video Lectures, and Lesson Review Questions. The eLearning course has embedded links to each assignment.

1. Terms (Vocabulary)

Students can learn the terms assigned in each lesson by using our new digital flashcards, hand-writing the terms using the DIVE Glossary, or a combination of the two. Terms should be reviewed 3-4 days per week.

Digital Flashcards: a quick and easy way to learn and memorize terms. Hosted online, these flashcards provide a quick and easy way to learn and memorize terms. They also have games, quizzes, voice recordings of the terms and definitions and much more! If you make a Quizlet account, you can print the flashcards and/or lists of the terms and definitions.

DIVE Glossary: Used by those who prefer to hand-write their terms and definitions. The glossary can be found on the Course Home page. The glossary can be printed or viewed on the computer. After hand writing the terms, students can use the digital flashcards to review and memorize the terms.

2. Reading Assignments

Like most college classes, DIVE Science courses are lecture based, meaning most of the material for assignments and exams come from the lectures. Reading assignments simply familiarize the students with the content, building a foundation for the video lecture. Therefore, it is not necessary to read for full understanding of every topic. The video lectures teach the complex concepts in a concrete way that is easier and more efficient to learn. We caution against taking notes on the reading assignments. Instead, have the student focus on taking good notes of the video lectures.

Internet Textbook or Physical Textbook

The DIVE Internet Textbook (free) is our recommended reading supplement. Designed specifically for the DIVE Chemistry course, the reading assignments are short and succinct. The links to each weekly reading assignment are embedded in the eLearning course and include animations, interactive graphics, etc. However, if you prefer a physical textbook, a Reading Syllabus with the exact page numbers to read in your book each week, is available for almost every publisher. A list of available Reading Syllabi is at the end of this guide.

3. Video Lecture

Building on the terms and reading assignment, Dr. Shormann provides step-by-step instruction on the complex concepts, like RNA synthesis, which are difficult to understand by reading. During the lecture, students should take notes, pausing and rewinding as needed, until they understand. While taking notes is a critical skill for college preparation, most students have not had much experience. Be patient as this skill develops slowly at first. Taking screenshots can be helpful for large or complex diagrams. To learn how to take a screenshot, Google your Operating System and “Screenshot”.

NOTE: There is a table of equivalent measures in the lab manual, which you may need beginning about Week 4. It is on the page preceding Laboratory Activity 4. You can also download and print the table here.

4. Review Questions Worksheet

This is not a quiz. It is a learning activity that requires students to apply what they learned in the lecture, developing understanding and building retention. Because this is a learning activity, the grades for the Review Questions are a small percentage of the overall grade. Repeating Review Questions to improve the score is not recommended.

Students can use their lecture notes, video lecture, definitions (Quizlet) to complete the Review Questions. After answering each question, click **Submit**. The system will tell you if the answer is right or wrong. If wrong, a small penalty is assessed, but you can keep trying until you get it correct (most questions). If you don't know the answer, don't spend time trying to find it in the reading, etc. Re-learning will take place in the next step. Parents should not help students until the Results page is displayed.

When an explanation is needed, a link to a video solution is included in the automated feedback. If the answer is simply a term that doesn't require an explanation, the answer is provided.

After completing all the questions, click **Submit All & Finish.** This will record the score in the online grade book. A results page is displayed with all the questions, the correct answers, and the student's answers. This page can be printed, saved, or emailed to the parent.

Students should correct their lecture notes by adding the information for all missed questions. A complete set of notes is needed to study for the exams. If there is anything the student does not understand at this point, they should contact Dr. Shormann using the contact form in the eLearning system.

If the student fails or earns a low grade, instead of retaking the Review Questions, students should correct missed questions by adding the missing or correct information to their notes. At the end of the course, extra credit can be added to the final grade. See the "Extra Credit" section below.

Weekly Labs

Each week there is 1 video lab. A printable PDF of the lab manual is posted on the eLearning course home page. A hard copy can also be purchased here.

While completing the labs hands-on is ideal, it is not required. In fact, our video labs were designed so that even if the labs are not completed hands-on, the student would still get an excellent college preparatory lab experience that teaches the student how to use lab equipment and processes in college labs. Both options earn one science lab credit.

Using Lab Supplies

You can either purchase the DIVE lab kit from Nature's Workshop Plus or create your own lab kit. Students first watch the video lab, then complete the lab with the lab supplies while filling out the lab activity sheet in the lab manual. **Important:** If completing labs hands-on, with the lab kit or with your own supplies, you must read these Lab Instructions and lab procedures.

Without Lab Supplies

With this option, the student views the video lab, working interactively by filling out the lab manual. Dr. Shormann does not give the answers during the lab. Students must make a hypothesis, record observations, and write up results.

Grading Labs

At the end of the video lab, there are video solutions to the lab workbook pages. Students watch the solutions and correct the lab workbook pages as needed. No grades are assigned and no grades are recorded in the online grade book. However, at the end of the course, you can manually add extra credit for the labs and other handwritten work as described in the "Extra Credit" section below.

Quarterly Exams

Every 8 weeks there is an exam. No other assignments are due on the week of the exam. This gives the student a full week to study. Quarterly exams should be taken under parental supervision. Students should use the Student Exam Study Instructions

To teach students how to prepare for a college final exam, the last exam in DIVE Chemistry is cumulative, covering all 58 lessons.

Q&A Email Support

Anytime your child has a question about their Chemistry course, they should contact Dr. Shormann here. There is no need for the parent to dig through the book or try to figure out the correct answer. The parent is mainly a moderator, making sure students complete their work correctly and grading the quarterly exams. Dr. Shormann is the main teacher and he is happy to answer any questions. Think of emailing Dr. Shormann as raising your hand in class.

Struggling Student? We can help!

Most issues are easily solved by following the tips linked below. If you would like to speak with a consultant, please schedule a phone appointment.

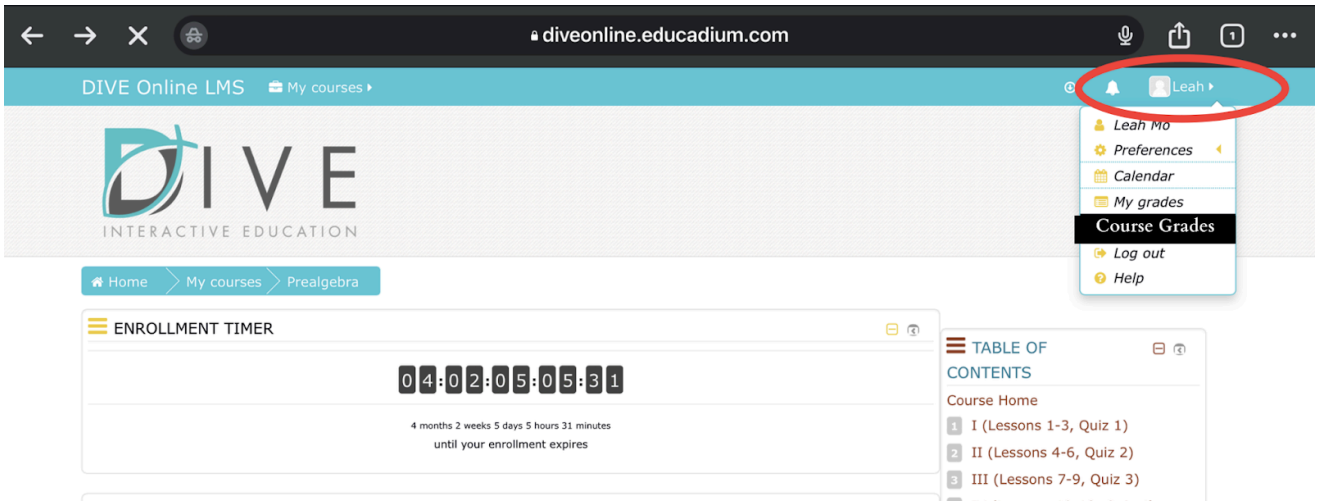
Time-Saving Tips for Success

Technical Issues

If your child experiences technical difficulties while completing an assignment, please let us know and we can reset the assignment so the student can take it again. To request a reset, please fill out the form here: Science eLearning Grade Changes & Resets

Online Grade Book & Grading

Login using the same login as the student, select “My Courses” in the top menu, then select the course title. In the top right corner, select the student’s name, then “Course Grades”.



Grade: This is your student’s grade in points.

Percentage: This is your student’s grade as a percentage.

Class Average: This is **NOT** your student’s grade. It’s the average grade of ALL the students who have taken this assignment.

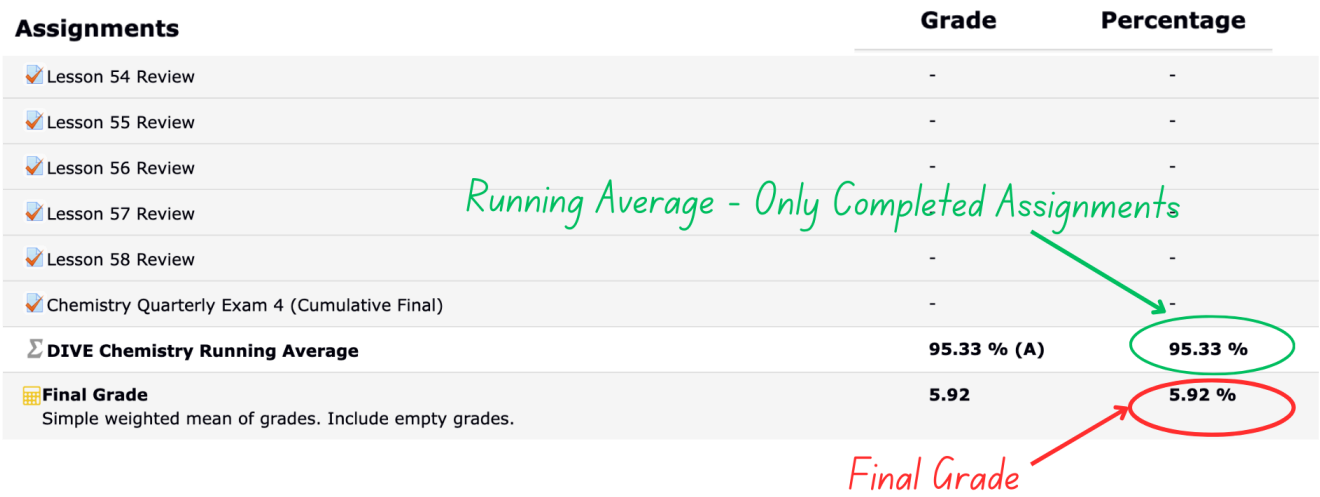
Your Student's Grades

Average Grade of All Students in this Course

Assignments	Grade	Percentage	Class Average
Grading Shormann Prealgebra			
Lesson 1 Practice Set	90.00	90.00 %	86.95
Lesson 2 Practice Set	85.00	85.00 %	84.59
Lesson 3 Practice Set	95.00	95.00 %	91.60
Quiz 1(Lessons 1-3)	10.00	100.00 %	9.71
Lesson 4 Practice Set	90.00	90.00 %	93.36
Lesson 5 Practice Set	97.50	97.50 %	94.04
Lesson 6 Practice Set	92.50	92.50 %	91.64
Quiz 2(Lessons 4-6)			

Running Average:

This is the grade for all the assignments that have been completed so far. It does not average the zero for assignments that have not been completed. So, as long as the student has not skipped any assignments, this is where you would see the student's current grade based on the assignments they have completed.



Final Grade:

This is the grade used at the end of the course for the final grade. It includes the zeros for assignments that were not completed. In this example, only a few of the assignments have been completed so the final grade is very low. At the end of the course, if all assignments are completed, the Final Grade and Running Average are the same.

Add Extra Credit to the Final Grade

For details, see "Optional Extra Credit" below.

Transcripts & Credits

For a free transcript template and detailed instructions, see Transcripts & Credits

ISSUES WITH THE GRADE BOOK

Issue: Final Grade and Running Average Are Not the Same

This means one or more assignments were not completed. Scroll through the grade book and look for assignments in the "Percentage" column that don't have a grade. See the next section to resolve this issue.

Issue: No Grade in the Percentage Column

1. Select the title of the assignment in the Grade Book.
2. If there is a button that says "Continue Last Attempt", this means the student opened and/or started the assignment but did click Submit All & Finish. Select the "Continue Last Attempt" button, "Finish Attempt" then, "Submit All & Finish".
3. If there is a "Start Quiz" button, this means the student did not start the assignment. You can either leave it as a 0 or have the student do the assignment, which will raise the final grade.

Grade Weights

The following describes how the grades are “weighted”.

Review Questions	40%
Quarterly Reviews	60%

Optional: Extra Credit

Keep in mind, as the parent and/or teacher, you are responsible for assigning grades. Our grading system is a tool to help you. You are not required to use the grades in the eLearning grade book or follow any of our recommendations. Use the course like you would any other curriculum, like Abeka or Bob Jones.

While the grades in the eLearning system for Review Questions and Quarterly Reviews account for good lecture notes and labs, some extra credit can be added for handwritten work. If your student corrected missed problems, took good lecture notes, corrected lab activities by watching the video solutions at the end of the lab, extra credit can be added at the end of the course by following the options below. However, this is not necessary because the eLearning system already includes extra credit by allowing students to take the exams twice and averaging the scores which is like adding up to 10 points to each exam grade.

Option 1: Add up to 3 points to the Final Grade in the Grade Book. After determining the new grade, add it to the Certificate (see below). The new grade should not be more than 100.

Option 2: Use the "Simplified Grading Method" below.

Grading the Detailed Way

While we don't normally recommend using this method, we realize some situations may require it. Follow the steps below to download the grade calculator and enter the grades for each individual assignment.

How to Grade Handwritten Work for the Detailed Grading Method: This includes definitions, lecture notes, and lab activities. If you need to give extra credit, use a completion grade for these assignments. That means, iff a student is putting little effort into their handwritten work, that usually shows up as poor scores on

Review Questions and Quarterly Exams. Some things your child should take notes on include titles and subtitles, definitions and important concepts, diagrams and tables with notes explaining them, and ALL practice problems. Did they fill out their lab manual and correct it using the video solutions? Does it appear that they have taken notes on every lecture? If yes, then they deserve a 95-100 on the handwritten work.

1. Read all the instructions below.
2. Open this link: DIVE Grade Calculator for Chemistry
3. Select File, Download as, Microsoft Word.
4. Open Microsoft Excel (Windows) or Numbers (Mac). If you don't have one of these, you can use Google Sheets (also free at www.sheets.google.com).
5. In your application, Go to File, Open File, and select the grade calculator file.
6. Select **Save AS,** then save it to your Desktop with your student's name and course title.
7. Type the grades in the appropriate cell. Do not edit any other cells. The spreadsheet will automatically weigh the grades and calculate a final grade.

Honors Course Grading Scale	Standard Course Grading Scale
A – 93-100	A – 90 -100
B –84 – 92	B –80 – 90
C – 74 – 83	C – 70 – 80
D – 65 – 73	D – 60 – 70
F – 64 or below	F – 60 or below
I – Incomplete	I – Incomplete

Certificate of Completion

Upon course completion, a certificate of achievement can be printed. Go to the Course Home page, scroll down the left menu, then click ***Certificate***.

Grade Changes and Assignment Resets

If, for any reason, you want the student to retake an assignment, or you want to change a grade, please follow the instructions below. While we are happy to adjust grades and assignments, don't overemphasize grades. The grade book is simply a tool to help you quickly evaluate your student's progress and understanding. DIVE does not report your grades to anyone or keep long-term records of grades. Once the subscription expires, all the grades disappear.
Request Grade Changes & Assignment Resets Here

Learning Disabilities: How to Modify the Timed Exams

While we cannot change the timer on the exams or quizzes, you can give the student more time by following these steps. However, you will need to manually record grades or use the "Simplified Grading Method" (below) instead of using the online grade book.

Parent Supervision Required: The exams are normally limited to one hour. This method doubles the time to two hours.

1. Study using the Study Instructions linked just above the exam.
2. Have the student take the exam twice. In the first attempt, complete only the first half of the exam. In the second attempt, complete the second half. This gives the student 2 hours to complete the exam.
3. Add the two scores together.
4. Have the student correct all missed problems on paper. If they correct all missed problems, **add 100 points to their grade then, divide it by two.** This is the equivalent of giving them two attempts and averaging the scores.
5. For grade recording and calculating a final grade, see the next section below.

Because students with learning challenges often require many accommodations, instead of using the grades in the eLearning course and submitting multiple grade change requests, manually record the four exams, then use the Simplified Grading Method to calculate the final grade.

Simplified Grading Method

If you allow your student to skip assignments, modify the time for learning disabilities, etc, the online grade book will not accurately calculate a final grade. Instead, use this simple method to give a completion grade of 90 for all Review Questions, Labs, Notes, etc,. This way, you don't need to submit multiple grade change requests or manually record all the scores. All you need is the average of the four exam grades to put in the formula below. This new grade can be added to the Certificate.

Exam Average = Sum of all the exam grades divided by 4.

Final Grade = **Exam Average (.60) + 36**

For Example: If the exam average is a 70, it would be: 70 (.60) + 36 = 78

To use a different completion grade for the Review Questions, use this formula:

Final Grade = Exam Average (.60) + Completion Grade (.40)

To calculate an exact score manually using the original weights, record all the grades, then use this formula:

Exam Avg. (.60) + Review Questions Avg. (.40)

You can also request a grade change for each assignment by using the "Request A Grade Change Form" on the Course Home page.

DIVE Chemistry eLearning Course

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Select a Reading Supplement

Following is a complete list of textbooks we support. If there is an updated edition of one of the books listed below, and it remains a good supplement for our courses, we are happy to create a reading syllabus for you. Please allow 2-3 weeks for the syllabus to be created and posted here.

CLEP/AP/Honors Textbooks

The DIVE Internet Textbook, designed by Dr. Shormann specifically for this course, is the recommended text for those who want an honors course and/or plan to take a CLEP or AP exam. If you prefer a traditional hard copy textbook, select a textbook below that has an asterisk next to it.

Upon completion of DIVE Chemistry, we recommend our CLEP Professor for CLEP and AP Chemistry, a three week course that provides specific preparation for these exams. Featuring video lectures, practice problems with video solutions, and several practice exams, this short course teaches every topic on the corresponding exam.

Standard High School Textbooks

The DIVE Internet Textbook is our favorite reading supplement for standard courses, too! If you prefer a hard copy textbook, any of the texts below may be used. The internet reading assignments on the reading syllabi are not required for a standard course.

DIVE Internet Textbook - Our #1 Favorite

This is our favorite reading text. Designed by Dr. Shormann specifically for this course, it provides an excellent foundation for the DIVE lectures. It can be used for an honors or standard course. All of the reading material is posted online which makes it possible to include graphics and animations that would not be possible in a traditional textbook. The links to the reading assignments in the Internet Textbook are embedded in the eLearning course. You do not need to print or save the Internet Textbook.

*Bob Jones University Press - Our #2 Favorite

This publisher teaches from a Biblical, six day Creation worldview. With good graphics and short, succinct reading assignments, these texts provide all the reading required for an excellent, honors level course.

BJUP Chemistry, 2nd ed.

BJUP Chemistry, 3rd ed.

BJUP Chemistry, 4th ed.

BJUP Chemistry, 5th ed.

A Beka Publishers

This publisher teaches Chemistry from a Biblical, six day Creation worldview. With nice graphics and succinct reading assignments, these are great texts for a standard high school course.

Abeka Chemistry, 3rd ed. and the Internet

Abeka Chemistry, 2nd ed. and the Internet

Apologia Ministries

This publisher teaches from a Biblical, six day Creation worldview. Written in a conversational style, these texts have longer, more descriptive reading assignments than any other textbook on this list. About five weeks of the concepts typically taught in an honors chemistry course is not in the Apologia Chemistry text. That reading material is found in the Apologia Advanced Chemistry text. Therefore if you would like an honors course you should either complete the optional internet reading assignments on the Apologia Chemistry Reading Syllabi or use the Apologia Chemistry with the Apologia Advanced Chemistry text (see Reading Syllabi below).

Apologia Chemistry, 3rd edition with The Internet

*Apologia Chemistry, 2nd ed. with Advanced Chemistry 1st ed.

Apologia Chemistry, 2nd ed. with The Internet

*Apologia Chemistry, 2nd Edition with Advanced Chemistry, 2nd Edition

Apologia Chemistry, 1st ed. with the Internet

Other Christian Worldview Publishers

Discovering Design with Chemistry by Jay Wile

Modern Chemistry 2015, Holt McDougal

MODERN CHEMISTRY, Holt, Rinehart and Winston, 2002

Secular Publishers

These texts are written from a secular, evolutionary worldview.

High School Chemistry In Your Home by Bridget Ardoin

Intro to Chemistry, 4th ed, by Cracolice and Peters

FOLLOWS Pearson Chemistry, 2012 ed.

Need Help?

If you have any questions about this information, please contact us. However, if you have questions concerning the content of your course (ie: what is DNA?), please contact Dr. Shormann at drshormann@gmail.com