

Acellus

Manual



Acellus

Manual

International Academy of Science
Independence, Missouri
USA

Published by International Academy of Science
Copyright © 2003-2019 International Academy of Science. All Rights Reserved.
11020 N Ambassador Drive
Kansas City, MO 64153

Version 7.0.AT.190404

Table of Contents

TABLE OF CONTENTS	I
INTRODUCTION.....	1
<i>Acellus.....</i>	<i>1</i>
<i>Prism Diagnostics™</i>	<i>1</i>
<i>Live Class Monitor.....</i>	<i>1</i>
<i>The Student Success Zone: Every Student Can Succeed</i>	<i>2</i>
<i>Professionally Filmed, Highly Engaging Videos.....</i>	<i>2</i>
<i>Teacher Features.....</i>	<i>3</i>
<i>Student Features.....</i>	<i>3</i>
<i>The School Acellus Administrator</i>	<i>4</i>
<i>The Acellus Teacher</i>	<i>4</i>
SECTION I: FOR TECHNOLOGY DIRECTORS.....	5
CHAPTER 1: TECHNICAL CONCERNS.....	5
<i>Technical Specifications for Clients</i>	<i>5</i>
Windows.....	5
Mac.....	5
iPad/iPhone	5
Android	5
<i>The Acellus Media Server</i>	<i>6</i>
Information	6
Frequently Asked Questions:.....	6
Installation	7
Troubleshooting	8
“Loading FSIX...Please wait...” Message Appears on the Server’s Front Panel	8
“Server Stalled” Message Appears on Server’s Front Panel	9
“Using Alternative Server” Message Appears on Student Screens	9
The Media Server’s Fan Has Stopped	11
<i>Network Considerations – Configuring Proxy Filters and Firewalls</i>	<i>11</i>
Setting Up Acellus Teacher Administration.....	11
Troubleshooting Acellus Teacher Sign In	11
Network Firewall / Proxy Filter	12
Proxy settings on the Client Computers.....	12
Windows Firewall	12
Opening Windows Firewall Configuration Using Active Directory	12
Opening Windows Firewall Configuration on the Workstation.....	13

Creating a New Rule in the Windows Firewall	13
<i>The GoldKey Security System</i>	13
Setting Up GoldKeys for Acellus	13
<i>Optimizing Wi-Fi for Acellus</i>	15
<i>Acellus STEM Labs -- A Guide To Using The Cellus Bot</i>	15
Bluetooth Pairing	15
Using the Robot	16
Tips for Using the Introduction to Coding Course	16
<i>Cellus Bot Troubleshooting</i>	17
Diagnostic Mode	17
Difficulty When Pairing	17
<i>Technical Considerations – Frequently Asked Questions</i>	17
What happens if students forget their passwords?	17
Can a Teacher or Administrator Reset their GoldKey PIN?	18
An Electronic Textbook or 3D Tablet will not boot up	18
The Video Doesn't Play.....	18
Can I use Acellus with VLANs?.....	19
Can I Use Multiple Network Segments with Acellus?	19
How many students can access video from our Acellus Server concurrently?	19
What is the size of Acellus' video streams, and how much bandwidth is required per stream?	19
Will Acellus run on a Mac, an iPhone, an iPad, or an Android Phone or Tablet?.....	19
SECTION II: FOR ADMINISTRATORS	20
CHAPTER 2: DEPLOYING ACELLUS	21
<i>Special Education</i>	21
Preparing Special Needs Students for Successful Careers in STEM.....	22
Special Education Courses	22
<i>Credit Recovery</i>	22
Personalizing the Learning Experience	22
<i>Acellus STEM-10</i>	23
Empowering Today's Students to be Tomorrow's Innovators	23
<i>Direct, Self-Contained Instruction</i>	23
STEM 10 – Level 1	24
STEM 10 – Level 2.....	24
Acellus STEM Robotics Lab.....	24
<i>Advanced Placement (AP) Classes</i>	25
Rigorous Yet Adaptive – Making the College Dream a Reality	25
Opening the Way to Complete College General Ed Requirements While Still in High School	26
<i>Acellus Career and Technical Education</i>	26
CTE 100 – Courses in 100 Career Pathways	26

Making Learning Come Alive	27
<i>Acellus TeamTeach</i>	27
Simple to Use	27
Courses for Every Level – K-12	28
Lesson Plans and Homework Grading... Done!	28
Ever Changing Standards? Not a Problem	28
<i>Targeted Intervention – The Right Instruction at Just the Right Time</i>	28
Real-time Reporting for Teachers	28
Perfect for RTI and MTSS	29
<i>Emotional, Social, and Physical Education (ESP)</i>	29
The Importance of Emotional, Social and Physical Education	29
<i>Summer School Programs</i>	30
Individualized Learning for Every Student	30
<i>Acellus for English Language Learners – Breaking Down Language Barriers</i>	31
How It Works	32
<i>GED and Adult Education Programs</i>	32
Making Career Opportunities a Reality	33
Acellus Career and Technical Educaiton	33
Courses Specifically Developed for High School Equivalency Exams	33
Acellus High School Equivalency Exam Prep Courses	34
Reading/Language Arts	34
Mathematics	34
Science	35
Social Studies	35
<i>Acellus for Independent Study</i>	36
Ensuring Academic Integrity in the Online World	36
Standards-Based Curricula	36
<i>After-School Programs</i>	37
Learning doesn't stop when the bell rings	37
Opening new horizons by offering STEM and Robotics after hours	37
<i>Teacher Development</i>	38
<i>Gifted and Talented Programs</i>	38
Empowering Creative Students to Excel	38
Content Specifically Designed for Gifted Students	39
<i>Tutoring</i>	39
One-on-One Tutoring for Every Student	39
Professionally Filmed, Engaging Videos taught by America's Greatest Teachers	39
The Blended Approach	40
<i>Correctional Education</i>	40
Providing a Path Forward to a Successful Future	40

Targeted Instruction at Every Skill Level.....	41
Career and Technical Education.....	41
Making Re-entry Into the Workforce Possible.....	41
<i>College Prep</i>	41
College and Career Ready.....	41
Empowering Students to Achieve Their Full Potential.....	41
Be Ahead of the Curve – Enabling Students to Enter College with General Ed Credits Already Completed.....	42
Targeted Instruction at Every Skill Level.....	42
Courses Specifically Developed for College Readiness.....	42
CHAPTER 3: BUILDING CLASSES.....	44
<i>Set Up Your Secure Sign-in</i>	44
<i>Step A: Add Teachers</i>	45
Remove Teachers.....	47
<i>Step B: Add Students</i>	47
<i>Step C: Set School Default Options</i>	48
<i>How Acellus Works</i>	49
Set the School Year.....	50
Set the Grading Periods.....	51
Set the Grading Categories School Defaults.....	52
Set the Grading Scale.....	53
<i>Step D: Build Classes</i>	54
Create a Class.....	54
Adjust Grading Categories and Weights.....	56
Lowest Passing Score.....	56
Delete Classes.....	56
Add Students to a Class.....	57
Student Passwords and Sign-In Cards.....	58
CHAPTER 4: MANAGING ACELLUS TEACHERS.....	59
<i>Monitoring Teacher and Student Performance</i>	59
Track Classes.....	59
Track Students.....	61
Student Report Cards.....	61
Time Worked Report.....	63
<i>Setting Calendar Events</i>	64
<i>Teacher Training</i>	65
On-Site Training.....	65
CHAPTER 5: CLOSING OUT A SCHOOL YEAR.....	66
<i>Archive Classes</i>	66
<i>Remove Teachers</i>	66

SECTION III: FOR TEACHERS.....	67
CHAPTER 6: BUILDING CLASSES.....	68
<i>Adding Students</i>	68
<i>Building Classes</i>	70
Create a Class.....	70
Adjust Grading Categories and Weights.....	72
Delete Classes.....	72
Add Students to a Class.....	72
Print Student Sign-In Cards.....	74
CHAPTER 7: GETTING READY FOR CLASS.....	75
<i>My Desk – Your “Control Center”</i>	75
<i>Acellus Curriculum</i>	75
<i>Review the Acellus Library</i>	78
<i>Set Student Goals</i>	78
<i>Review, Edit, and Create Assignments</i>	79
<i>Create Homework</i>	81
<i>Set Calendar Events</i>	82
<i>Print Sign-In Cards</i>	83
CHAPTER 8: BECOMING FAMILIAR WITH THE STUDENT INTERFACE.....	85
<i>The Student Experience</i>	85
Videos.....	86
Save Video Position Feature.....	86
Video Skip Back Feature.....	87
“Practice Problems” to Assess Mastery.....	87
Instructive Problems.....	88
Help Tab.....	88
Textbook.....	89
Lesson Videos.....	90
Problems Solving Help.....	91
Submit a Problem Fix.....	92
Reviews and Exams.....	93
Exam Recovery Mode.....	93
Retake for Extra Credit.....	94
Memorization.....	95
Songs.....	95
Drills.....	96
Progress.....	97
Messaging.....	97
Attendance.....	98
Calendar.....	98

Scores	99
Special Lessons	99
Library	100
The Roger Billings Blog.....	100
Parent Registration	102
CHAPTER 9: MANAGING CLASSES.....	103
<i>Getting Students Started</i>	103
Student Sign-in.....	104
Change Student Passwords.....	104
<i>Attendance</i>	104
<i>Determining the Need for Intervention</i>	105
Messages	106
Class Progress	107
Class Details	107
Student Details	108
The Time Worked Report.....	110
<i>Tools for Intervention</i>	111
Student and Class Reports	111
Homework	112
The Acellus Library	112
Student Goals.....	112
Repositioning Students	114
Repeat Concepts	114
The Time Worked Report.....	115
<i>Grading</i>	115
Printing the Gradebook	117
Export the Gradebook.....	117
<i>Student Profiles</i>	118
<i>Troubleshooting</i>	119
When Students Forget Their Passwords	119
Student Class List Does Not Respond.....	119
Student Scores Are Displayed As “0%”	119
SECTION IV: ACELLUS COURSEWARE DEVELOPMENT SYSTEM.....	120
CHAPTER 10: THE ACELLUS COURSEWARE DEVELOPMENT SYSTEM.....	120
<i>What is the Acellus Courseware Development System?</i>	120
<i>Overview of the ACDS</i>	121
The Syllabus.....	122
Videos	122
Problems	123

Summary	125
<i>How to Become Involved</i>	125
Acellus Participants	125
Non-Acellus Participants, Already Enrolled	125
Non-Acellus Participants, Not Yet Enrolled.....	126
How to Become a Contributor	126
APPENDIX.....	127
<i>Contact Information</i>	127
Contact Your Acellus Coordinator	127
Contact Acellus Customer Service.....	127
<i>Trademarks</i>	127

Introduction

Acellus

The Acellus Learning System is a revolutionary technology designed to help students master any course of instruction. Acellus turns the learning process into a science, and by so doing, improves the overall effectiveness of the learning process. Simply stated, Acellus works. It works because it incorporates highly effective core technologies that enhance teaching and learning:

Prism Diagnostics™

A technology developed by Acellus creator Dr. Roger Billings, Prism Diagnostics™ is a game-changer in the world of online learning. In the same way a prism splits light into a spectrum of colors based on different wavelengths, Prism Diagnostics™ splits students into groups or spectrums based on similar deficiencies in their background knowledge. When a student is diagnosed as falling into one of these deficiency spectrums, the system immediately calls up the Customized Personal Instruction (CPI) for that precise deficit, which works to fill the gap in the student's knowledge, building a strong academic foundation.

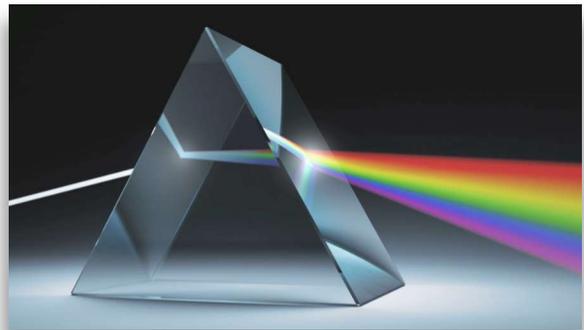


Figure 1: Like a prism splitting light into a spectrum of colors, Prism Diagnostics splits students into groups based on similar deficiencies in their background knowledge.

Live Class Monitor

The Acellus Live Class Monitor gives teachers “superpower” abilities – allowing them to see real-time where each student is working at any moment in time. Acellus also notifies teachers when students appear to be having difficulty. Are they struggling? Guessing? Or do they just need extra motivation? Acellus allows teachers to drill into the details, right from the Monitor, so that they can come to the rescue at just the right moment — already knowing exactly how to help.



Figure 2: The Acellus Live Class Monitor empowers teachers to reach every student by providing information about what and how students are doing.

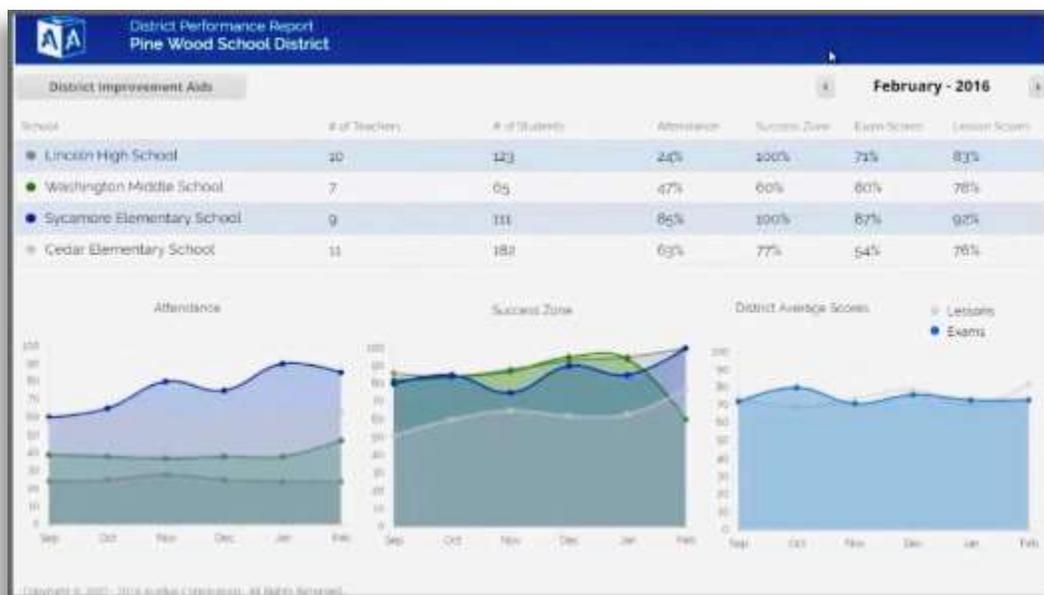


Figure 3: Acellus provides teachers, administrators, and even district leaders with performance reports that make it possible to get – and keep – every student in their personal “Success Zone.”

The Student Success Zone: Every Student Can Succeed

According to the Acellus “Success Zone” strategy, 100% of the students in a class CAN succeed in learning. The challenge is to transform students who are stuck into successful learners. One of the principle goals of this tool is to empower the teacher with the data and intervention options they need to get students making progress — in their individual Success Zone.

Professionally Filmed, Highly Engaging Videos

Taught by some of America’s greatest teachers, Acellus videos are professionally filmed with some of the best equipment available in the cinematic industry. The combination of incredible footage, outstanding teachers, and content that makes learning relevant to the real-world, makes Acellus videos captivating and interesting – igniting the student’s interest in learning.



Figure 4: Mark Rogers filming the Acellus Business Math course. Acellus courses are filmed using the best technologies, are taught by award-winning teachers, and are embellished with professional graphics, making online learning come alive!

Teacher Features

- Acellus Teachers are provided with extensive, real-time monitoring and record-keeping capabilities, giving them details of how each student is progressing.
- Acellus provides Teachers with suggestions for how to help individual students achieve success.
- Attendance is kept automatically by the Acellus system, which marks students as present, absent, or tardy.
- With the Acellus *Classes* tool, Teachers can see an overview of how their students are doing -- including their progress, their current grade, and the concepts they are working on. As students work through individual Acellus Courses, their grades are automatically updated. As the grades change, Acellus keeps teachers up to date.

Student Features

- Acellus virtually provides each student with one-on-one instruction.
- Acellus presents video-based content, provides problems to elicit student response, uses Prism Diagnostics to analyze the responses and, based on the response feedback, uses Customized Personal Instruction, thus customizing each course for each student.
- With Acellus, students can work at their own pace.
- Students can sign in from anywhere Internet is available, and Acellus will pick up right where they left off.
- The Acellus Messaging System allows students to interact with their Teachers whenever and wherever they need to.
- Acellus engages students with the three methods of instruction -- visual, aural, and tactile.

The purpose of this Handbook is to enable you to utilize the Acellus Learning System more effectively and thus to improve the educational experience at your school – for you and for the students.

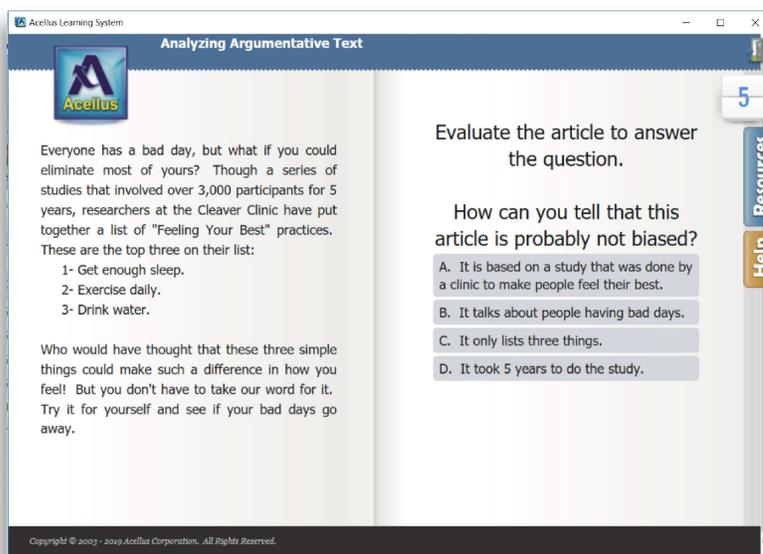


Figure 5: The Acellus Student Interface presents problems to test students' comprehension.

The School Acellus Administrator

Each school where there is an Acellus server should appoint one person to be the School Acellus Administrator. If you are appointed to this position, you may be responsible to add students and Teachers to the system, and to build classes. You are the person the Teachers will come to when they have problems or need training on the Acellus System. You will interact with Acellus Customer Service – usually with your Acellus Coordinator – whenever special needs arise.

You should carefully read *Section II: For Administrators* in this Handbook.

The Acellus Teacher

Because of your daily interaction with the students, you are the person who has the greatest power to make Acellus a successful part of the educational process at your school. You bear the greatest responsibility to motivate students, to encourage them, to help them to see why they want to learn and how learning specific concepts at this time will improve their lives down the road. Acellus gives you feedback on how the students are doing, as well as tools and resources to work with so that you can make appropriate intervention to meet the students' needs.

The Acellus Learning System provides the following to help you:

- At-a-glance indicators of trouble spots in your classroom
- In-depth reports to indicate exactly which concepts students are struggling with
- An autonomous learning system that keeps students moving forward, which frees you up to help those who need your help, when they need it
- The Acellus Library – additional materials to help students who need them

You should carefully read *Section III: For Teachers* in this Handbook.

Section I: For Technology Directors

Chapter 1: Technical Concerns

The responsibilities of the Technology Director in any school are critical to the success of each person there, from Administrators to students. The Acellus system is designed to make the job of the Technology Director as painless as possible, and this section of the Acellus Handbook is designed to provide information that will help it to be so. If you need additional assistance, please contact us (see contact information in the Appendix). In this section we will discuss the following:

Technical Specifications for Clients

The Acellus Media Server

- Information
- Installation
- Troubleshooting

Network Considerations

The GoldKey Security System

Wi-Fi with Acellus

- Optimization
- Troubleshooting

Frequently Asked Questions

Technical Specifications for Clients

Minimum system requirements for running Acellus on a client workstation are as follows:

	<u>Windows</u>	<u>Mac</u>	<u>iPad/iPhone</u>	<u>Android</u>
OS	Win 10, 8.1, 8, 7, Vista, XP	OS X 10.6 or higher	iOS 4 or higher	4.1.2 (Jelly Bean) or higher
Browsers	Acellus App Edge, IE11, IE10 Chrome Firefox	Acellus App Safari Chrome Firefox	Acellus App	Acellus App Chrome Android Built-in Browser

The Acellus Media Server

Information

The Acellus Media Servers are used to serve up video lessons, audio clips, images and drills used in the various Acellus courses. This takes the majority of the network load off the school's wide area network connection. The Acellus Media Servers work best when installed on the same local area network where the students will be using Acellus. A 1000BaseT LAN connection to the server can handle up to 2,000 students online simultaneously. With a 100BaseT connection, the number of simultaneous users drops to 300. To the extent that bandwidth is available, the servers will automatically fail over to other servers in other buildings while replacement units can be obtained and installed.

The servers are locked down with GoldKey Security to perform the Acellus function. No user programs can be installed. Installation involves connecting power and LAN, and then setting the IP address using a front-panel display and input keys. Typical installation time is less than 5 minutes. Installation instructions can be found below.

Typically, the servers are installed in a rack in a wiring closet at each building location. Each unit occupies 2U of rack space and consumes 350 watts of power at 110 volts. If sufficient Internet bandwidth is available, the Media Servers can be located at the International Academy of Science data center, but in the case of large installations, a substantial amount of Internet bandwidth will be required to support the system during periods of peak usage.

The equipment is serviced and maintained by the International Academy of Science. In the event of a failure, a replacement unit is shipped to the school for swap out. Telephone technical support is provided. On-site support, though rarely needed, is available, though additional service fees do apply.

Frequently Asked Questions:

What is the size of the video streams, how much bandwidth per stream is required?

Each video streams at 333 Kbps. Typically, an online user plays video 50% of the time.

How many concurrent users can the server handle?

With Gigabit connections to the Media Servers, they can simultaneously support 2,000 students. With a 100BaseT connection, the server can support 300 simultaneous users.

Is the video a multicast stream, and what protocols are used?

Video content is played using HTTP over a TCP connection. Multicasting is not used since Acellus is designed to allow students to work asynchronously and at their own pace.

What sockets are needed through a firewall?

Media Server updates use outbound TCP ports 80 and 22. Students access the media servers and our online servers over TCP port 80. Teachers will also use outbound TCP port 443 to access our online servers and goldkeyvault.com (used for multi-factor authentication).

Do all the video streams come from the local servers, or is some of it brought in to the servers or clients from the internet?

Media Servers will automatically update every night to make sure they have the latest course content (videos, problem graphics, etc). All new or updated content will be included in this update. The media server will download these updates over HTTP. In the event that a video file cannot be found on the local Media Server(s), the client will access the file via the Internet.

Since the machines will be managed remotely by Acellus, what is required for the remote management? Is a VPN account needed or is something else used on the appliances for this?

Each server has a built-in front panel display and buttons that can be used to change its basic settings, such as its IP address, default gateway, DNS servers, etc. The servers create an outbound connection on TCP port 22 that can be used by our support staff for advanced management and remote trouble shooting. No VPN account is required.

Installation

To set up the Acellus Media Server on your network, the first step is to set an IP address on the Acellus server. If your students are going to be doing work from home, you can configure the server with a public IP address, or forward a port from your internet router to port 80 on the Acellus server.

Begin by connecting your Acellus server to a 110-Volt power source, and then connect it to the network using the port shown in the diagram below and turn the server on. When the server is finished booting, its IP address will be displayed on the front panel.

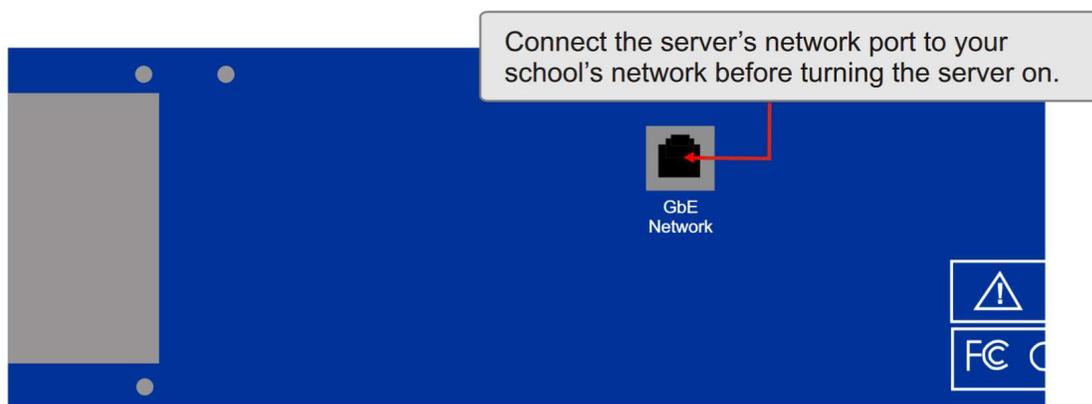


Figure 6: Connect the Acellus Media Server to the network, then connect it to a power source and turn it on. This will allow the server to obtain a DHCP address, if you are running DHCP.

Most school networks are using a DHCP server, and the server will obtain its IP information automatically. If you are not running a DHCP server on your network, the server will start with this default static IP address:

192.168.199.254

You may either reserve the DHCP address that the server has obtained, or assign a static address using the front panel. To assign a static address, follow these steps:

1. Use the up and down buttons to the right of the front panel display to select an item from the menu on the front panel. Press the Set button when *Network Settings* is displayed.
2. Select the *IP Address* option and press the Set button. Then, use the up and down arrows to change the first part of the IP address, and the Set button to move to the next octet.
3. When you are finished, press Set to save the IP address, or Cancel to quit.
4. Repeat this process for the network mask, the default gateway, and the primary and secondary DNS servers.

IMPORTANT

Before your students can start using your new server, the server's IP address must be entered into the Acellus system. To do this, please email the IP address to coordinator@acellus.com, or give us the address by calling [877-411-1138](tel:877-411-1138). If you have decided to make your server accessible from the internet, you will also need to provide the external address that can be used to access the server.

An alternative method for providing us with the Acellus Media Server's IP Address(es) is to sign into Acellus and select the Network button from the menu bar. On the Network Settings screen, enter the Serial Number, Local IP Address, Online IP Address, and a Description that will help you know where each server is physically located. When you are finished, select Update.

Troubleshooting

In this section we present several error messages that may appear on the Acellus Media Server's front panel display, along with explanations of what they mean and suggestions for correcting the issues they represent.

"Loading FSIX...Please wait..." Message Appears on the Server's Front Panel

This message normally appears for a few moments while the server is booting up. If the message does not go away, try rebooting the server – press the power button firmly but gently and then release it. Once the server has gone all the way down, press the button again to restart it.

If this does not correct the problem, turn the server off and unplug it from its power source for at least five minutes, then plug it back in and turn it on. If the problem still persists, contact us for technical assistance.

“Server Stalled” Message Appears on Server’s Front Panel

If the message “Server Stalled” appears on the front panel, try rebooting the server. Press the power button firmly but gently and then release it. Once the server has gone all the way down, press the button again to restart it.

If this does not correct the problem, turn the server off and unplug it from its power source for at least five minutes, then plug it back in and turn it on.

If the problem still persists, contact us for technical assistance.

“Using Alternative Server” Message Appears on Student Screens

This message indicates that the client computer(s) on your system are unable to locate the Acellus Media Server whose IP address is listed in the Acellus System. When this happens, the Acellus program will automatically fail over to a server located in another building, or if none is available, to a backup server located on the internet. This happens when your Acellus Media Server is down, unreachable, or not updating:

1. *Your Acellus Media Server may be down.*

This may happen if you experience a power outage, or if someone has erroneously pressed the Media Server’s power button. Please verify that the server is up and running. If you are unable to bring it up normally and it is displaying a message on the front screen, find the message in this section of the manual for help. If you do not see the message in this section, contact us for technical assistance.

2. *Your Acellus Media Server’s internal address may have changed.*

If you have not reserved the DHCP address that the Media Server is using, the server may obtain a different IP address in the event of a power outage or if someone has inadvertently turned the server off and back on again. Verify that the IP address shown on the Acellus Server’s front panel is the same as the one listed for it in the Acellus System. To find the latter, either contact us to obtain this information or check the internal address listed on the Network Screen in the Teacher Interface. Please provide us with an updated IP address if needed.

NOTE: This problem can often be avoided by reserving the IP address that the Media Server is using on the DHCP server, or by setting a static IP address on the Acellus Media Server.

3. *Your Acellus Media Server’s external address may have changed.*

Someone may have changed the Acellus Media Server’s external IP address and not provided Acellus with the new one. Double-check the Acellus Media Server’s external IP address (if you have set one up) by entering that IP Address into the address line of a browser on a computer or laptop. If the external address is forwarded properly to the Acellus Server and is functioning as it

should, you will be forwarded to the Acellus website at <http://www.acellus.com>. If the test fails, please check on whether the address you have set for the server is the one you are using, that the port is forwarded properly, and that the actual external IP address is the same as the one that has been provided to Acellus. To find the latter, either contact us to obtain this information or check the external address listed on the Network Screen in the Teacher Interface. Please provide us with an updated IP address if needed.

4. *The gateway, DNS and network mask settings may be incorrect on the Acellus Media Server.*

This is usually an oversight. These settings can be double-checked and corrected using the Acellus Media Server's front panel. Please see instructions for doing this in the Installation section, above.

5. *Ports 80 and/or 22 (outgoing) may not be open in the firewall to allow the server to update.*

These ports should be checked on your proxy filter and/or firewall to be sure that they are open, (outgoing). You can obtain a list of the domain names / IP address ranges in the Network Considerations section, below. If you need additional help troubleshooting this issue please contact us.

6. *There may be a problem in the network path.*

In order for students to access the Acellus Media Server, there must be a viable network pathway all the way from the client computers to the Media Server. If the students are able to access the Internet – which is a given, based on the error message we're investigating – then that part of the network path is working, so you only need to check the pathway that goes from there to the Media Server. Logically and systematically check everything in this section of the network pathway. This would include wireless and wired routers, switches, ports, and cables, as well as the Acellus Media Server.

To trouble shoot the Acellus Media Server, do the following:

- a. Be sure that the server is connected to a known good port on a known good switch via a known good network cable. Once it is, is there a link light on the switch where the Acellus Server is connected to it? If not, check the Acellus Server's network card.
- b. To check the Acellus Media Server's network card, you will need a computer or laptop that takes a network cable, make sure that the Acellus Media Server and the computer have compatible IP addresses (the Media Server will need to have a static IP address to do this) and then connect the computer directly to the Media Server with a known good network cable. The Acellus Server is auto MDI/MDIX, so you do not need a crossed cable to do this. While connected in this way, attempt to ping the Acellus server. You can find instructions for doing this through your favorite search engine, or contact us for help.

If you have done all of this and the problem still exists, please contact us for help.

The Media Server's Fan Has Stopped

If the Acellus Media Server's fan stops turning, make sure the server is located in a well-ventilated area and that it is not overheating. The server has built-in redundancy – it has four fans – and can run for a very long time without one of them.

On the other hand, if the server is located in a well-ventilated area but is still overheating, please contact us for technical assistance.

Network Considerations – Configuring Proxy Filters and Firewalls

Setting Up Acellus Teacher Administration

The Acellus Learning System has been designed to provide a reliable resource in which to store student progress information. Every effort has been made to make the system fault tolerant and effective. To prevent tampering with student databases, the system is protected with GoldKey security.

All student data is stored at the International Academy of Science data center. An Acellus Media Server is installed at each school as a performance booster. The local Media Server is used to deliver video and other multimedia to students over the local network, but student data is still stored at the central data center where it can be backed up and protected. Schools with local Media Servers also have a reduced license fee per student.

Troubleshooting Acellus Teacher Sign In

To sign into Acellus, teachers will need to authenticate using a GoldKey Token. To do this successfully, a teacher will need access to servers in the following IP ranges over **ports 80 and 443**:

12.171.56.0/25 (255.255.255.128) — Primary range used for administration.

12.154.57.0/25 (255.255.255.128) — Back-up range used for system fail over.

172.85.76.0/22 (255.255.252.0) — Back-up range used for system fail over.

If a teacher is not able to sign into Acellus or to create a GoldKey ID account, they may see one of the following messages:

Connecting to server GoldKeyVault.com ...

Failed to communicate with GoldKeyVault server. The server connection timed out. Please check your connectivity and try again later.

These symptoms indicate that the GoldKeyVault software cannot communicate over port 443 with IP addresses in the ranges listed above. The problem with the outbound connection may be caused by any of the following.

Network Firewall / Proxy Filter

Many networks utilize a proxy server to analyze and filter web content. Please make sure that your network firewall and proxy filter are configured to allow outgoing traffic to the IP ranges listed above. Such proxy servers should be configured to allow all traffic to goldkeyvault.com. This will allow the GoldKeyVault application to perform the authentication that is necessary in order for you to sign in to Acellus.

Proxy settings on the Client Computers

Unless your network is using a transparent proxy, proxy settings must be configured on each client computer. In Windows, your proxy settings can be configured by opening Internet Explorer and selecting Tools -> Internet Options -> Connections -> LAN Settings.

To add exceptions for your proxy server, click on the Advanced button in the Proxy Server section and enter the following list in the Exceptions section:

acellus.com	goldkeyid.com
*.acellus.com	*.goldkeyid.com
goldkey.com	goldidentity.com
*.goldkey.com	*.goldidentity.com
	goldkeyvault.com

Windows Firewall

The Windows Firewall can be configured to block outgoing connections by default. When computers are configured in this way, outgoing connections that do not match an explicit rule will be denied. Outgoing rules should be enabled to allow outgoing traffic to the IP ranges listed above, over ports 80 and 443. In some cases, you may also need to specifically allow outbound traffic from the GoldKeyVault application. The Windows firewall for each client can be configured using an Active Directory group policy, or through the Windows Firewall with Advanced Security on each client.

Opening Windows Firewall Configuration Using Active Directory

Log in to your Active Directory controller and open Group Policy Management from under Administrative Tools. From the tree on the left, find the domain you would like to modify and expand Group Policy Objects. Then, right-click on the Default Domain Policy and click Edit, and then select Computer Configuration → Policies → Windows Settings → Security Settings → Windows Firewall with Advanced Security → Windows Firewall with Advanced Security → Outbound Rules.

Note: *It may take a while for the new group policy settings to propagate to client workstations. To force an update on a workstation after you have changed the policy settings, log in as an administrator on the workstation, open the command prompt and run the gpupdate command.*

Opening Windows Firewall Configuration on the Workstation

From a client computer, open Control Panel and select System and Security → Windows Firewall and click on Advanced Settings. You may also search for Windows Firewall with Advanced Security in the Start menu.

Creating a New Rule in the Windows Firewall

Once you have progressed to this point, the firewall configuration is the same whether you are managing it through Active Directory or on the client workstation itself.

Click on Outbound Rules and select New Rule from the Action menu. When you are asked to select the type of rule you would like to create, select Custom and click Next -> Next -> Next. On the Scope screen, choose to specify the list of remote IP addresses. For each of the IP ranges listed above, click on Add, enter the range into the IP or Subnet field, and click on OK.

Finally, click on Next -> Allow the connection -> Next -> Next, specify the name of the rule as “Unblock Acellus,” and click Finish.

For technical assistance, please call your Acellus Coordinator or Technical Support at (877) 411-1138 (toll free) or (816) 229-3800.

The GoldKey Security System

In the Acellus System, student data is stored in the International Academy of Science Data Center, from which the Acellus Administrative Servers direct the work of each student. Acellus gives teachers access to these student records via the Internet. To preserve the students’ privacy, Acellus uses the GoldKey Security System, whose dual-factor authentication service requires teachers to present something they have – a GoldKey USB token – and something they know – their GoldKey PIN – in order to access data in Acellus.

Setting Up GoldKeys for Acellus

When teachers are set up in the Acellus System, they are automatically sent an email welcoming them and providing the first step they need to take to get set up – a link to the web page where they can download and install the Acellus App. (For information about Acellus App compatibility, please see Technical Specifications, above.)

Once the Acellus App has been downloaded and installed, with their GoldKey in a USB port on their computer, each teacher should do the following:

1. Open the Acellus App.
2. Select Parent/Teacher Sign-in.
3. When prompted to personalize the GoldKey, enter the same email address that was used to add the teacher to the Acellus system. (Each teacher must use a unique email address. In other words, two teachers cannot use the same email address to personalize their GoldKeys.)

4. When prompted to do so, enter a telephone number. We recommend the teacher's cell phone be used.
5. Continue through the process, following the prompts.

When the process has been completed, if the *My Desk* screen in the Acellus Teacher Interface does not open, each teacher should do the following. *NOTE: We recommend that this sequence be done on a laptop or desktop computer.*

1. Open a browser to www.GoldKey.com → Support → Download Center, or follow this link: <https://www.goldkey.com/support-center/download-center/>
 - a. For Windows, download the GoldKeyLite program.
 - b. For Mac, scroll down to find and download the GoldKey and GoldKey Vault program specific to your OS X version.
2. Open a browser to www.goldkeyid.com
3. On the right side of the page, below the two dark blue buttons, select "Can't access your account?"
4. Enter the same email address that was used to add the teacher to the Acellus System.
5. Check your email.
6. When you find the email from GoldKey with the subject line of "Account Access Recovery for GoldKey," open the email and select the button titled "Account Access Recovery."
7. When you are asked to perform phone verification, enter the same phone number that you entered previously, select whether you would like a verification code sent to you via text or voice, and then proceed.
8. Enter the phone verification code you received by text or voice.
9. You will see a list of GoldKey Security Tokens – but the list may be empty. If there is not a token listed as a USB-type token, select "Add a Token." (Be sure your GoldKey is plugged into a USB port on your computer.)
10. Select GoldKey USB Token and press Continue.
11. If you are asked whether you want to allow this website to open a third-party program (GKV), allow it. The GoldKeyVault program is being opened. You may also want to indicate that you don't want to be asked this question again.
12. You will be asked for your GoldKey PIN. Enter it and continue.
13. When the GoldKey USB token appears on the list, you are ready to go back to the Acellus App and sign in with your GoldKey.

As mentioned above, in order for the GoldKey Security System to work within your school, you will need to make sure that ports 80 and 443 are open, outgoing, in your firewall and/or proxy filter. For more information about proxy filter and firewall considerations, please see Network Considerations, above.

Optimizing Wi-Fi for Acellus

If you are using Wi-Fi in your classroom or computer lab, we recommend the following for optimum performance:

- Use 802.11n wireless for the client computers.
- Use high-quality wireless hardware.
- Use a gigabit data rate to connect the Acellus Server and your wireless Access Points.
- Change the wireless channel width from 40 MHz to 20 MHz. A 40-MHz channel width is not recommended for commercial or multi-access point deployments. Using a single 40-MHz channel for many access points causes interference between access points, and the 2.4 GHz band is not large enough for multiple 40-MHz channels to operate without interference. More information about the use of 40-MHz channels can be found here:

http://www.connect802.com/80211n_channels.htm

- Reconfigure your access points with correct channel distribution. We recommend that you first discover the physical location and channel settings of third-party wireless networks around your school. You will then be able to configure each of your access points on the channel with the least interference from surrounding units. To avoid interference among your access points, you should use channels 1, 6, and 11. More information on correct channel distribution can be found here:

http://en.wikipedia.org/wiki/Wireless_channel

- The best place for your access points is in the classrooms where students will be using the Acellus laptops or other wireless devices. Mounting the wireless unit as close to the center of such work areas as possible will improve your signal. Mounting the access points higher is better, because it eliminates line-of-sight interference. Make sure to avoid mounting the unit right next to fluorescent lights or other sources of electric interference.
- Use WPA2 with AES security.

Acellus STEM Labs -- A Guide To Using The Cellus Bot

Bluetooth Pairing

In order to use the Cellus Bot with the Acellus STEM Lab, the Cellus BOT must first be paired with the Acellus STEM Lab station it will be used with. Cellus BOT can be paired to a device by following the steps below.

Note: Be sure to pair the Cellus BOT to its STEM Lab station ahead of time. Each robot will need to be paired, one at a time.

- Start by turning on the power switch on the robot. The light on the robot will start blinking to indicate that it is in pairing mode.
- On your device, find the Cellus BOT under bluetooth settings and pair with it. Once paired, the robot will chime and its light will start fading in and out. This indicates that the robot has been paired to your device.
- You can now turn Cellus BOT off until you are ready to use it.

Using the Robot

When a student starts a Cellus BOT drill in Acellus, they will be prompted as shown below (see Figure 8):

- To begin using Cellus BOT, turn on the robot's power switch. If the robot has already paired with that device, the robot will chime and the light will start fading in and out.
- The student can then select the green "Connect to Cellus BOT" button to begin the lesson.
- After the lesson is complete, the student will be prompted to turn off the robot.

Tips for Using the Introduction to Coding Course

Here are a few tips for using the Introduction to Coding Course:

- After a student starts a problem, they can view the instructions again using the 'Instructions' button in the top-right corner of the screen (see Figure 9).
- In many of the coding activities, students are limited to a maximum number of blocks that can be used to solve a problem. Students can see how many blocks they have left in the bottom-right corner of their screen (see Figure 9).

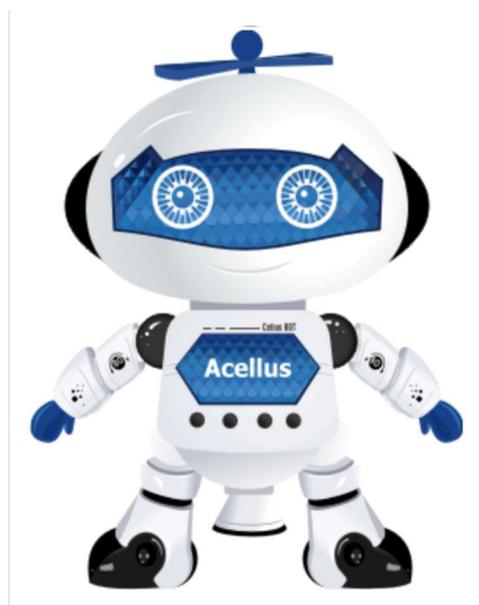


Figure 7: This is Cellus BOT. Turn on his power switch, then, on your device, find him under bluetooth settings and pair with him.

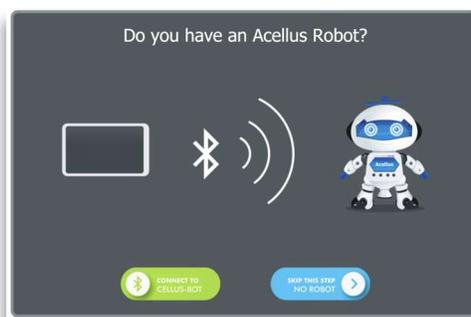


Figure 8: Students have the option of whether to use the Cellus BOT. Those students who don't have a robot can still program the animated version of Cellus BOT. b

Cellus Bot Troubleshooting

Diagnostic Mode

The Cellus BOT has a diagnostic mode to verify that everything is in working order. To enter diagnostic mode, hold the robot upside down for three seconds, while in pairing mode. Once in diagnostic mode, you can test each component by changing the robot's position.

- **Face-down** - turns the light on its face on
- **Face-up** - light on stomach should turn on
- **Upside-down** - should turn on the lights on the hat
- **On its side** - whichever arm is underneath should light up
- **Upright** - it will turn on all its lights and start dancing



Figure 9: Acellus displays the number of blocks students have left to use. Problem instructions are only a button away.

Difficulty When Pairing

- If you experience difficulty while pairing, first make sure that the light on the robot is blinking. If the light never turns on, verify that the batteries are fresh and inserted correctly.
- If the robot's lights turn off while you are trying to pair, it has most likely entered sleep mode. If this happens, simply move the robot to wake him up and restart the pairing process. Note: The robot will enter sleep mode if it is left alone and does not pair within one minute.
- If the light is fading in and out (rather than blinking) the robot may already be paired to another device.
 - If the Cellus BOT was previously paired to another device it may be necessary to clear the pairing state. This can be done by holding the robot motionless standing on its head for ten seconds. Once complete, the light on his hat will turn off. Turn the robot upright again and it will be ready to pair to a new device.

Note: The Cellus BOT is currently only supported by the Acellus app on Android 4.4 or higher, and macOS X 10.10 or higher, and the current version of the GoldBook PRO computer (image 13, app 1.7).

Technical Considerations – Frequently Asked Questions

What happens if students forget their passwords?

If a student forgets his password, the teacher can easily find it by following these steps:

1. Open the Acellus App and sign into the Acellus Teacher Interface using your GoldKey.

2. Go to Students and search for the student by last name using the alphabet menu or by typing the student's first or last name in the search field.
3. Select the student's name in the search results.
4. Select "Profile"
5. You will see the student's password, along with their user ID, listed on this page.
6. If desired, you can reset the student's password using the "Reset Password" button.
7. If you wish to print a new Sign-In card for the student, do the following:
 - i. Select Students.
 - ii. Select Print Sign-In Cards.
 - iii. Select the appropriate class.
 - iv. Select the student(s) you want to print a Sign-In Card for.
 - v. Select Print Sign-In Cards

Can a Teacher or Administrator Reset their GoldKey PIN?

A Teacher or Administrator can reset their PIN. Contact your Acellus Coordinator for assistance. (See contact information in the *Appendix* of this manual.)

An Electronic Textbook or 3D Tablet will not boot up.

If you find that one of your Acellus Electronic Textbooks or 3D Computers will not boot up, please try the following:

- Drain the unit completely and recharge it overnight using a known good power source.
- If there is still no sign of life, hold down the power button until the unit comes on. (This may take a while -- be patient.) You may need to try this a second and even a third time.
- If the issue persists, please contact Customer Support. (See contact information in the *Appendix* of this manual.)

The Video Doesn't Play

This can be caused by several different problems:

Incorrect software configuration – You can use the latest version of the major browsers for Acellus students, but we recommend that you use the Acellus App. If you are using browsers, check our Technical Specifications page to be sure that your student's computers are using supported software. In addition, make sure that your students are using the latest version of your browser and plugins.

The browser's cache is too full – browsers often cache up data in order to minimize loading and buffering times. When students watch multiple videos, their browsers may cache up more data than their computers can hold and still function properly. When this happens, performance suffers and sometimes video will not play. To correct this, clear the browser's cache. If you are using the Acellus App, which uses components of native browsers, clear the cache as follows:

- If you are using Windows, clear the cache in Internet Explorer (not Edge).
- If you are using a Mac, iPad, or iPhone, clear the cache in Safari.
- If you are using an Android device, clear the cache in the native browser on your device.

Instructions for clearing the cache on the various browsers can easily be found by searching for that information in your favorite search engine.

If this does not work, try having the student use a different browser, reboot the computer, or try a different computer. If you need further help, please contact us. (See contact information at the end of this handbook.

Network/Internet connection problems – If you are using Wi-Fi in your classroom or computer lab, we recommend that you optimize your Wi-Fi (see instructions, above). Video issues can also be caused by poor Internet connection, or by more users accessing Acellus than your Internet bandwidth will support.

Acellus Media Server Issues -- In Acellus, the video is delivered from the local Acellus Media Server if possible, or via the Internet. If you are using a supported browser and your school has an Acellus Server, make sure the server is turned on, that the student workstations have access to it over the local area network (LAN), and that you have reported the current IP Address of the Acellus Media Server to your Acellus Coordinator. If all of these things are set up properly, you may want to check to be sure that the ports mentioned under Network Consideration, above, are open as per the instructions listed there. If you need assistance with any of these tasks, please feel free to contact us (see the contact information at the end of this handbook).

Can I use Acellus with VLANs?

Yes, you can use Acellus with VLANs. To use Acellus over VLANs, make sure that the port on which the Acellus Server resides is a member of all the VLANs from which you wish to access the Server.

Can I Use Multiple Network Segments with Acellus?

Yes, you can use multiple network segments with Acellus, but be sure that you have a good Layer 3 switch between segments, to ensure adequate bandwidth.

How many students can access video from our Acellus Server concurrently?

A 1000BaseT LAN connection to the server can handle up to 2,000 students online simultaneously. With a 100BaseT connection, the number of simultaneous users drops to 300.

What is the size of Acellus' video streams, and how much bandwidth is required per stream?

Each video stream is approximately 300 Kbps. Typically, an online user plays video 50% of the time.

Will Acellus run on a Mac, an iPhone, an iPad, or an Android Phone or Tablet?

Yes, Acellus will run on a Mac, an iPad, an iPhone, or an Android Phone or Tablet. See Acellus' technical specifications, above, for more information.

Section II: For Administrators

Each school that implements the Acellus Learning System should appoint one person to manage it – to be the “Acellus Administrator” for that school. While, at your school, you will implement this position according to your own needs, and may even have more than one person designated for this position, it is anticipated that you, the Acellus Administrator, will be responsible for making sure that the following things happen:

1. Teachers and students are entered into the system.
2. Classes are built.
3. Teachers’ GoldKeys are distributed and set up.
4. Teachers are trained.
5. The system is running smoothly.
6. Any problems that occur are handled and resolved in a timely way.

This section of this Handbook is designed to give you the information you need to accomplish these tasks.

The first step is to get yourself set up with access to the Acellus system. This includes obtaining and personalizing a GoldKey Security Token and registering in the Acellus System. If you have a GoldKey and have received an email welcoming you as a Teacher to the Acellus System, please see the instructions in Chapter 1 – Technology Concerns, under the heading “The GoldKey Security System.” If you do not have a GoldKey, or if you do not have the email, please contact the Acellus Administrator at your school, or your Acellus Coordinator at our offices. When you have completed the process, we’ll get started.

Deploying Acellus

Building Classes

- Add Teachers
- Add Students
- Set School Default Options
- Build Classes

Managing Acellus Teachers

- Monitoring Teacher and Student Performance
 - Performance Reports
- Setting Calendar Events
- Teacher Training Options

Closing Out a School Year

- Archive Classes
- Remove Departing Teachers

Chapter 2: Deploying Acellus

The deployment of Acellus is an important step that should be done with careful planning. Because of its ability to customize a course for each student, Acellus can help achieve a varied range of educational goals.

Acellus is currently being used in the following ways:

Special Education

Incorporating Acellus into programs for special needs learners has completely changed the educational experience for both students and educators. Acellus gives educators a whole new arsenal of tools they can rely upon to more truly engage students, cater content to their need and academic skill level, and empower students to achieve their educational goals.



Figure 10: Schools that have incorporated Acellus into their Special Education programs have found that special needs students are very quickly able to start experiencing success and are often even able to achieve grade level expectations.

Acellus can be easily incorporated into IEPs for those students classified as Special Education students under the Individuals with Disabilities Education Act (IDEA), and allows schools to provide specialized services to students with various needs.

Schools that have incorporated Acellus into their Special Education programs have found that special needs students are very quickly able to start experiencing success and are often even able to achieve grade level expectations. The International Academy of Science has spent years researching how special education students learn best and developing the methodology to most effectively reach these learners. Courses are available that have been specifically designed for special education, starting at the elementary level and going all the way up through 12th grade.

Acellus Special Education courses are specifically designed for students with disabilities, and incorporate the tools needed to assess, adapt, and individualize course material for students. These courses have been developed to be achievable by Special Education Students, while still incorporating the rigor of standards-based courses. Content is taught at a deeper level, allowing students to spend more time on each concept, and increasing the students' depth of knowledge on each topic. This enables students to approach, and even meet, grade-level standards.

Acellus classes are broken into small concepts, and each concept is taught via video instruction. Videos are short and concise, and designed to convey just one concept. After the instruction, the student is given an assessment designed to determine the students' mastery of the concept presented. If the student shows mastery on that topic, they are moved forward to the next lesson. However, if additional help is required, another video will be delivered automatically, targeting the deficiency in the students' understanding.

Preparing Special Needs Students for Successful Careers in STEM

A focus of the International Academy of Science to help schools deploy Acellus STEM Robotic Labs and STEM curriculum for their special needs learners. Recent studies from credible sources show that a higher percentage of special education students transition into STEM related careers, when compared to other students. Integrating Acellus STEM Robotics Labs into the special education environment allows educators to prepare classified students to be college-ready, and prepared for a successful career in STEM.

Special Education Courses

Acellus Special Education Courses are available in all subject areas, and grade levels, K-12. Acellus also covers a wide selection of career courses for transition planning, to help special needs students be prepared to enter the post-secondary environment. These classes help ensure that the students' transition from school to adult life is as smooth as possible.

Credit Recovery

When students start falling behind in their coursework, or fail classes needed to graduate, it is imperative that they receive timely intervention, and are empowered to complete the courses required for graduation. Acellus provides schools with an expansive selection of courses that can be done on a flexible schedule, and are self-paced to meet the needs of each learner. Acellus helps bridge the gap between where students are at academically, and where they need to be in order to complete grade level material.



Figure 11: Using Prism Diagnostics™ Acellus adapts the course of instruction to the specific needs of each student, providing customized, personalized instruction to fill specific holes in their understanding.

Personalizing the Learning Experience

Using Prism Diagnostics™ Acellus adapts the course of instruction to the specific needs of each student, providing customized, personalized instruction to fill specific holes in their understanding. This method of

differentiating instruction is very effective in helping students master course content – even for courses previously failed.

Acellus courses are taught via video instruction, and combined with adaptive and interactive assessments on each concept. Unit exams, a mid-term exam, and the final exam are given to the student throughout the course. The lessons are automatically graded, and the course is literally tailored to each student's level and need.

For a list of Acellus credit recovery courses, please visit our website at this address:

<https://www.science.edu/acellus/deployment/credit-recovery/>.

Acellus STEM-10

A Cohesive 10-Year Initiative Connecting STEM and CTE

Empowering Today's Students to be Tomorrow's Innovators

Acellus STEM-10 is a major initiative engineered to significantly increase the number of students prepared for high-tech careers right out of high school. Rather than the usual games associated with STEM, this program is a serious educational endeavor. STEM-10 is a cohesive 10-year program that starts with students in the 3rd grade. The first 6 years of the program focus on STEM instruction, starting with coding in the 3rd grade, and adding complexity each year. In the 9th grade, students then branch into a Career and Technical field that matches their interest.

The Acellus STEM courseware acts as a catalyst for Acellus CTE (Career and Technical Education) programs, focusing students on the CTE Pathway that best fits their interests, skills and career goals. Students completing Acellus CTE courses are empowered with marketable skills and industry certifications, allowing them to pursue a college degree, or enter the workforce immediately after high school.

Direct, Self-Contained Instruction

The Acellus coding instruction is self-contained and delivered right through the Acellus system, enabling schools to implement STEM-10 in classrooms where a STEM trained teacher is not available. The coding courseware is video-based, and adaptive to the students individual needs, allowing schools to personalize the STEM instruction to the level and skill-set of each learner.



Figure 12: The Acellus STEM courseware helps focus students on the CTE Pathway that best fits each of them.

STEM 10 – Level 1

In the first year of STEM-10, students take lessons starting from square zero and then advance step-by-step through the fundamentals of coding. In the first half of the year, the course builds a baseline understanding of the concepts needed to learn coding.

In the second half of the year, the students are introduced to Cellus Bot, a teaching robot which is equipped with lights, motor, and sensors, all of which are controlled by block coding modules included as part of the course. As an additional touch, the Bot sports a laser which draws shapes and circles as the robot dances. The built-in accelerometer supports program-controlled responses to movements and positioning of the Bot. Students first learn how to control the robot in the most simplistic manner, but the lessons develop in complexity as the course progresses.



Figure 13: Cellus Bot is a teaching robot equipped with lights, motor, and sensors, all controlled by block coding modules included in the course. Students first learn how to control the robot in the most simplistic manner, but the lessons develop in complexity as the course progresses.

STEM 10 – Level 2

In the second year of STEM-10, students are introduced to a sophisticated new dancing robot called AC-D2 which is equipped with snazzy lights, ultrasound sensors, and multiple motors. AC-D2 comes ready to move. It can sway, twist, and dance around with approximately 10,000 possible step combinations giving it great style on the dance floor.

Students learn to program this more advanced robot through the Level 2 Acellus coding course, which teaches students the syntax needed to program in JavaScript. This allows students to engage in serious coding tasks that will control the robot's personality and movements.

Acellus STEM Robotics Lab

The Acellus STEM Robotic Labs are where students learn, discover, and create in a hands-on environment designed to prepare them towards STEM careers in the real-world.

The new Acellus STEM Robotics Lab creates an environment tuned to give students a discover-and-create learning experience. Rather than only working through a simulated environment, Acellus STEM Labs provide students with an actual robot to program, called Cellus Bot.

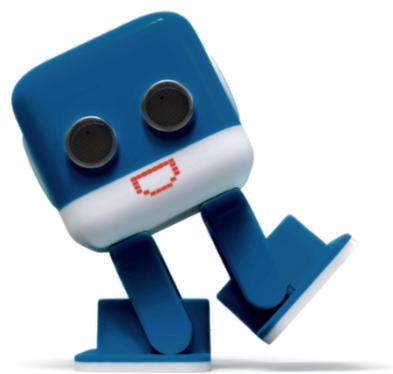


Figure 14: In the second year of STEM-10, students are introduced to AC-D2, a new robot that packs lights, ultrasound sensors, and motors.

The Acellus STEM Lab program empowers math and science teachers to offer effective coding and robotics courses without the need for extensive additional training. For dedicated deployments, specially designed STEM Learning pods include all the tools exceptional learners need to be creative and productive – the right lighting to set that relaxed/stimulated mood, seating that is firm but not confining, a handy place to jot down notes, and touch screen monitor to interact with the program.

The Acellus STEM Lab utilizes cognitive instruction, a method of instruction that achieves student learning through the process of acquiring knowledge and understanding through thought, experience, and the senses.

Advanced Placement (AP) Classes



Figure 15: The Acellus AP Environmental Science Course.

with outstanding AP scores often have the opportunity to move into upper-level courses sooner, pursue a double-major, or even study abroad.

Rigorous Yet Adaptive – Making the College Dream a Reality

Acellus AP courses are taught by certified AP Instructors who have years of experience teaching AP material, and preparing students to be ready for the rigorous AP exams. Acellus AP Courses have all been audited, and approved by CollegeBoard, making it possible for students to receive college credit upon successful completion of the course and exam.

Acellus AP courses follow a rigorous curriculum specified by CollegeBoard. Courses

Acellus offers schools an extensive selection of CollegeBoard Ap-



proved AP courses, allowing students to gain college credit while still in high school. Thousands of colleges and universities across the nation and internationally recognize AP courses, and will grant college credit to students with exam scores of 3 or higher. Many colleges also consider AP credit in the admissions process and when considering placement. Students

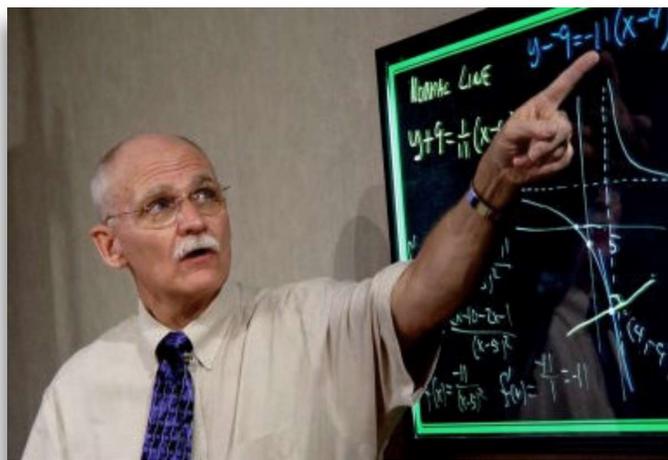


Figure 16: Acellus AP Calculus Course

are taught via video instruction, and combined with adaptive and interactive assessments on each concept. Unit exams, a mid-term, and final exam are given to the student throughout the course. The lessons are automatically graded, and the course is literally tailored to each student's level and need.

Opening the Way to Complete College General Ed Requirements While Still in High School

Acellus offers a diverse and extensive library of AP courses. By completing sufficient courses, along with getting a passing score on the associated AP exams, students have the opportunity to satisfy most college general education requirements before their first day of college. This opens the door for students to be placed in higher-level courses during their freshman year, and for additional advancement opportunities. Following is a listing of AP courses offered through Acellus.

For a current list of available Acellus Advanced Placement courses, please visit our website: <https://www.science.edu/acellus/deployment/advanced-placement/>

Acellus Career and Technical Education

Preparing Students to be Career Ready
Day One

Acellus Career and Technical Education (CTE) courses incorporate the necessary academic anchor standards, along with the career and life-skills training essential for success in the “real world.” With the various career clusters Acellus offers, students are able to take courses specific to the career pathway of their choice.

Acellus CTE courses provide career related education experiences, while taking the experience a major step further, by allowing students to earn industry recognized credentials. These industry recognized credentials are extremely valuable. The credentials let employers know that this student is work-ready on day one.



Figure 17 – Acellus has already made substantial progress in the development of career and technical education courses, and offers over 20 career courses, including heating and air-conditioning, electrical, and plumbing.

CTE 100 – Courses in 100 Career Pathways

Acellus has already made substantial progress in the development of career and technical education courses, and offers over 20 career courses, including heating and air-conditioning, electrical, and plumbing. CTE-100, which is an initiative of IST, involves the development of courses for 80 additional careers. For each career, 2 full-year courses will be created. The curricula for these courses follows state

CTE guidelines, but also relevant industry standards with the idea that students will be qualified, upon completion, to take industry recognized certification exams. This will open the way for them to move into entry level positions in these fields right out of high school.

Making Learning Come Alive

Acellus CTE courses have been filmed in 3D, for use with the Acellus 3D Tablets. The Acellus 3D Tablet uses natural 3D technology, which does not require the use of glasses for the 3D effect. This 3D technology has been shown to deliver many benefits in an educational setting – concepts that are hard to convey through the traditional 2D approach become much easier to show when displayed in 3D.

For a current list of available Acellus CTE courses, please visit our website:

<https://www.science.edu/acellus/deployment/career-and-technical-education/>

Acellus TeamTeach

The Acellus TeamTeach system fuses incredible teachers with the best online instruction. Many teachers deploy TeamTeach in their classroom during the school day, just using a projector and eliminating the need for a computer lab. Teachers can easily select specific videos lessons from any of the Acellus courses to enhance and differentiate the day's instruction for their students. After presenting the videos, teachers can involve the class in group discussions on the topic, fostering collaboration between learners.

Simple to Use

Teachers can select up to six Acellus courses to access at any one time. Once the teacher has selected their courses, they can then access all of the steps in the course, including the videos on each concept, the lesson assessments, and the exams. Acellus provides teachers with multiple videos on each concept, allowing teachers to differentiate instruction for students who may need the material presented in an alternative manner, or from a different perspective, in order to master it. Providing teachers with alternative methods of instruction also allows teachers to broaden their own competency in the course material.



Figure 18: Teachers can select up to six Acellus courses at any one time. Once the teacher has selected their courses, they can then access all of the steps in the course, including the videos on each concept, the lesson assessments, and the exams.

Courses for Every Level – K-12.

There are over 300 courses to choose from in all core areas, including speciality courses, such as career and technical education, AP classes and electives. TeamTeach allows teachers access to over 50,000 educational videos, which are available in the Acellus Course Library.

Lesson Plans and Homework Grading... Done!

Teachers using TeamTeach in class can also allow their students to log into Acellus to complete their homework online. The corresponding lesson plans are already created for the teachers, and the homework is graded automatically by the Acellus system, giving teachers more time to focus on teaching.

Ever Changing Standards? Not a Problem

TeamTeach is a great tool to help teachers keep up to date with the latest standards in education, along with best practices and new methods for teaching. The Acellus courseware development system is constantly bringing in student responses and feedback, and because of this constant feedback, Acellus is continually changing and adapting to student needs, making it an excellent resource for educators.

Targeted Intervention – The Right Instruction at Just the Right Time

Acellus provides targeted intervention for students, integrating prescriptive assessments and customized content, based on the student's skills and individual needs. Acellus, supported by Prism Diagnostics technology, identifies specific gaps in students' knowledge based upon their response to the presented concepts. Acellus then provides Customized Personal Instruction (CPI) to apply targeted intervention in the prescribed areas. The students are subsequently re-assessed to ensure that the concepts identified and addressed have been retained. If gaps still exist, the student will again be presented with the relevant concepts and then re-assessed to determine comprehension. Acellus will deliver additional versions of instruction to students when data shows that multi-level instruction is required.

Real-time Reporting for Teachers

Acellus gives teachers real-time reports on each student in their class – an extensive amount of data, down to very minute details. Acellus keeps record of each time students log in, the amount of time they spend on each task, and every answer they input into the system. Using this data, teachers can very easily see not only if their students are struggling in a course, or on a concept, but they have all of the data they need to help the student fill that particular gap in their knowledge – transforming their “stuck” students into successful learners.

Acellus courses can be used to leverage teachers in providing targeted intervention for students at-risk of failing. The progress monitoring and prescriptive assessments used by Acellus, in which all student response data is collected, allows teachers to analyze student performance at any time. This allows teachers to respond quickly to individual student needs. The student response data can also aid teachers in identifying students with learning and other disabilities.

Summative student reports offer several detailed lists of data for teacher and parent analysis. Teachers can see a list of which concepts a student is struggling with and the progress being made, as well as their grades and class attendance. Parents stay involved in their child's progress through similar reports provided via the Parent Interface.



Figure 19: With the Live Class Monitor, teachers can see at a glance what and how students are doing. With this information, teachers can easily assess who needs their help the most, and can drill down in the reports to find an extensive amount of data, down to very minute details. Acellus keeps record of each time students log in, the amount of time they spend on each task, and every answer they input into the system.

they recommend the Acellus tools for progress monitoring because they are provided specific interventions targeting student's needs, interventions adapted to each student's individual level, and specific instruction designed to ensure each student's academic success.

The Acellus Emotional, Social & Physical (ESP) Education course focuses on the importance of all three components in students' lives, and helps to cultivate healthy relationships, a caring attitude, and the importance of ones overall well-being and physical health. ESP inspires positivity, which will empower students to face the day to day challenges they will encounter in the real world.

Emotional, Social, and Physical Education (ESP)

The Importance of Emotional, Social and Physical Education

Today's educators are tasked with the responsibility of engaging students in learning; helping them perform academically, while also creating an environment of positive thoughts and behaviors. The need for emotional and social education has never been greater, and much of the responsibility falls on educators to teach these important principles. Research shows that social and emotional learning improves student

Perfect for RTI and MTSS

Acellus is an ideal solution for schools offering Response to Intervention (RTI) and multi-tier system of supports (MTSS) programs by providing courses to support both academic and social & emotional needs.

Acellus can be effectively incorporated into RTI multi-level tiered intervention systems. The first tier embeds good core initial teaching, a second-tier intervention provides leveled instruction with greater intensity plugging the holes in individual learning, and a third tier of leveled intervention with individualized instruction. RTI teachers say

achievement by an average of 11 percentile points, and also significantly improves student attitudes and behavior, while reducing depression and stress (Durlak et al., 2011). Along with the need for Social and Emotional Learning (SEL) is the need for students to be engaged in physical fitness, and to build healthy habits that will have long lasting impacts on their happiness and well-being.

Acellus has become involved in the mission of providing schools with courseware that integrates the standards of SEL with the requirements of a physical education program. We call this course ESP (Emotional, Social, and Physical Education).

The Acellus ESP Course focuses on the importance of all three components in students' lives, and helps to cultivate healthy relationships, a caring attitude, and the importance of one's overall well-being and physical health. ESP inspires positivity, which will empower students to face the day to day challenges they will encounter in the real world. Separate courses have been developed for the elementary, middle, and high school levels.

Taught by Dr. Pajet Monet, ESP guides students through the process of becoming physically fit and active, while teaching the importance of healthy thoughts, behaviors, and attitudes.



Figure 20: Taught by Dr. Pajet Monet, ESP guides students through the process of becoming physically fit and active, while teaching the importance of healthy thoughts, behaviors, and attitudes.

Summer School Programs

The diverse offering of courses that Acellus provides to schools caters perfectly to the needs presented in a Summer School program. This is true whether the Summer School program targets students that have fallen behind in their studies and need to regain course credits, or the focus is on acceleration for gifted learners. Through Acellus, schools can offer a complete credit recovery program, as well as the basic courses often needed for remediation so that students can complete grade level courses and End of Course Exams with a passing grade. On the other end of the spectrum, Acellus offers a full suite of College Board approved advanced placement courses, as well as honors courses, so that students that are on a gifted track can get ahead in the summer months.

Individualized Learning for Every Student

The Acellus courses can be used in the classroom or in a computer lab setting – making it possible for all the students to receive the instruction they need at their own pacing. All the courses are video based, taught by teachers who are experts in their field of study and know how to make learning both exciting and

engaging. After each video lesson students are presented with assessments and quizzes to determine their mastery of the concepts presented.

The Acellus Prism Diagnostic technology captures the students' responses and analyzes them. In the same way a prism splits light into a spectrum of colors based on different wavelengths, Prism Diagnostics splits students into groups or spectrums based on similar deficiencies in their background knowledge. When a student is diagnosed as falling into one of these deficiency spectrums, the system immediately calls up the Customized Personal Instruction (CPI) for that precise deficit, which works to fill the gap in the student's knowledge and build a strong academic foundation.

Acellus for English Language Learners – Breaking Down Language Barriers

Acellus Discover English

The Acellus “Discover English” course is a revolutionary answer to a problem facing many educators today. The number of ESL students in schools across the nation has grown exponentially over the last few years. “The percentage of public school students in the United States who were ELLs was higher in school year 2014–15 (9.4 percent, or an estimated 4.6 million students) than in 2004–05 (9.1 percent, or an estimated 4.3 million students) and 2013–14 (9.3 percent, or an estimated 4.5 million students.” (National Center for Education Statistics – US Department of Education).

With the increased population of ESL/ELL students, the demand has grown exponentially for courses to teach these students the English language, and the communication skills needed to thrive in school and the workforce. Schools are faced with the challenge of educating students that do not speak English, but speak a wide variety of languages.

Discover English was developed for students in ESL Programs, and is ideal for students from any ethnic background learning the English language. This course utilizes the Universal Interaction Technique developed by Dr. Roger Billings, so that the same course can simultaneously support students of various native tongues. This course is the first in a series of three courses.

Discover English incorporates the syntax, vocabulary and pronunciation needed to comprehend English in an everyday environment. This course is ideal for students learning English for the first time, or for an ESL



Figure 21: Discover English incorporates the syntax, vocabulary and pronunciation needed to comprehend English in an everyday environment. This course is ideal for students learning English for the first time, or for an ESL student needing extra practice and help.

student needing extra practice and help. Discover English can be used in a stand-alone environment or to supplement teacher instruction in the classroom in a blended learning environment.

How It Works

Using video-based instruction, Acellus lessons are taught using the UNIVERSAL INTERACTION TECHNIQUE and the Discovery method — engaging students with quick vocabulary lessons followed by real-life conversations that build step-by-step to incorporate the most common words and phrases. The vocabulary and phrasing becomes more complex as the student progresses, but never reaches the overwhelming point. Students are not required to translate the language, rather they learn by associating words and phrases to meaning in the new language like a native speaker.

Frequent drills hone the student's comprehension of the new language using written text, spoken words, and graphics to increase learning and retention. Assessments are placed at regular intervals throughout the course to keep track of progress and make sure that students master material before moving on. Using I² (Intelligent Interaction), Acellus is able to customize the course to the individual pace and level of each student. As the student progresses through the course, every response is recorded and monitored, and through I² technology, personalized help videos are delivered right when the student needs assistance in a concept.

The Acellus Teacher portal allows teachers unlimited access to detailed information on how students are progressing through the Acellus course material. The Live Student Monitor allows teachers to view student's activity real-time, notifying them when a student struggles in any concept, or is inactive for an extended period of time. The Acellus Gradebook keeps track of every action done through the system – grades and responses on every assignment and exam are recorded, as well as the length of time spent on every video and lesson. Attendance and “time spent on task” are automatically recorded – teachers and administrators are able to pull reports on a particular student, for the class, or for the entire school if needed.

GED and Adult Education Programs

Acellus provides schools and adult learning centers with a extensive array of resources that are ideal for the academic and career training needed for successful adult education programs. Whether it is preparing adults to be ready for a high school equivalency exam, or empowering them with the skills and training required for the career of their dream, Acellus makes it possible. Acellus offers a varied and diverse selection of courses that can be done on a flexible timetable, allowing adults that are on busy and restrictive schedules to still complete their coursework.

Courses in each core area are specifically developed for each section of the GED, as well as the HiSet and TASC. Students who lack the academic foundation to complete GED level material, can also take prerequisite courses through Acellus. Students can begin with more basic courses in any subject, helping them to attain the competency and mastery needed to successfully complete any high school equivalency exam.

Making Career Opportunities a Reality

Acellus Career and Technical Educaiton

Acellus offers career and technical education courses that incorporate the core anchor standards, along with the specialized instruction and skills needed for the career the student is preparing for. With the various



Figure 22: With the various career clusters Acellus offers, students are able to take courses specific to the career pathway of their choice. The curricula for these courses follow state CTE guidelines, but also meet industry standards with the idea that students will be qualified, upon completion, to take industry-recognized certification exams. This will open the way for them to move into entry level positions in these fields.

career clusters Acellus offers, students are able to take courses specific to the career pathway of their choice. The curricula for these courses follow state CTE guidelines, but also meet industry standards with the idea that students will be qualified, upon completion, to take industry-recognized certification exams. This will open the way for them to move into entry level positions in these fields.

Courses Specifically Developed for High School Equivalency Exams

Passing the GED, or an equivalent test, can be a crucial element for succeeding in the workforce, and even open the way for advancement and promotions that would not be possible otherwise. It is essential that students preparing to take any high

school equivalency exam have a strong foundation of knowledge in literacy, mathematics, social studies, and science — the four core areas tested by the GED, HiSet, and TASC.

In response to the increased rigor of the 2014 GED Exam, Acellus provides schools and Educational Centers with a four-course series designed to help prepare students to pass the GED Exam. This series covers mathematics, literature and writing, social studies, and science. These courses are specially designed to help students build the educational foundation and skills needed to successfully complete and pass the current GED exam.

Acellus High School Equivalency Exam Prep courses are taught by master teachers. Each video lesson covers a single concept and is built into an adaptive and interactive interface. Students are continually assessed, and when knowledge gaps are identified, Acellus immediately provides additional targeted video instruction to fill in those holes. Students are able to easily move past the areas that they have mastered, only spending extra time on the concepts that they struggle with.

Grading is done automatically by Acellus, and logged in the online Acellus Gradebook. The Gradebook also records every action done by students, including time logged in, total time spent, each answer inputted by the student, and overall grade on each lesson, unit exam, mid-term exam, and final exam.

Local teachers receive immediate reports on student progress via the live student monitor. The live monitor provides real-time data – updating every 5 seconds – to alert teachers when students are struggling. Teachers can see the concept the student is working on, each answer inputted, and the intervention Acellus is providing to that student. Acellus will also send a message to the local teacher when a student fails an exam or extra assistance is suggested.

Acellus High School Equivalency Exam Prep Courses

Reading/Language Arts

This course focuses on reasoning through language arts via an integrated approach, reading carefully, writing about reading material, and the demonstration of good command of English language conventions.

Areas covered include the following:

- Comprehension and summarization of details and ideas
- Inference of implied ideas
- Creation of evidence-based generalizations based on textual details
- Editing for effective support of logic and clarity
- Paragraph development and organizational skills
- Editing to ensure proper sentence structure

Mathematics

This course focuses on Mathematical reasoning, including precision and fluency in executing and applying core computations, as well as learning to apply quantitative and algebraic reasoning skills within a wide range of academic, real-life, and workplace contexts. Specific areas include the following:

Basics of mathematics

Fractions, decimals, percents, and probability

- Basics of Geometry, perimeter, area, surface area, and volume
- Pre-Algebra
 - Integers, rational numbers, and properties of Algebra
- Algebra
 - Expressions, order of operations, and sets
 - Absolute value, square roots, squares, and irrationals
 - Equations and their applications
 - Graphing, inequalities, and systems of equations
 - Polynomials and operations with polynomials
 - Rational expressions

Science

This course emphasizes the ability to apply scientific reasoning skills to three areas: Life Science, Physical Science, and Earth and Space Science, with understanding of scientific content pertaining to the themes of health and the human body, and energy. Specific areas covered include the following:

- Properties and types of matter, and changes in matter
- Forms of energy – heat, electricity, and waves
- Forces, motion, work and machines
- Alternative energy sources
- Plate tectonics, earthquakes, mountains, and volcanoes
- Earth in space, comets, asteroids, stars, star systems, and galaxies
- Ecology
- Cell structure, function, and transport
- Cellular energy, cell division, genetics, and evolution

Social Studies

This course places emphasis on applying reasoning skills in social studies to content drawn from four areas: Civics and Government, United States History, Economics, and Geography and the World. This includes textual analysis and understanding, skills in data representation and inference, and solving problems in the context of social studies. Areas covered include the following:

- The foundations of the United States Government
- The Constitution
- Checks and balances
- The Bill of Rights and Amendments
- Political participation and parties
- How elections work, and the influence of mass media
- Historical foundations and nationalism
- Reformation, and the Union in Peril
- The First World War
- World War II
- Post-War America and Civil Rights
- Contemporary Issues: 1945 to the Present
- Basics of Personal Finance
- Basics of Geography

Acellus for Independent Study

Educating students outside of the brick and mortar school environment is becoming an ever-growing need. Providing an Independent Study program to students studying from home enables them to achieve their academic goals, while allowing them the flexibility to choose where and when to study. Acellus gives students the opportunity to study from home on their own schedule, without compromising on academic rigor, standards or quality—and gives them a pathway that enables them to fully realize their academic potential.



Figure 23: Acellus affords students the opportunity to study from home on their own schedule, without compromising on academic rigor, standards and quality. This gives students an educational pathway that best enables them to fully realize their academic potential.

Through the Acellus platform schools are able to easily offer standards-based courses and monitor student performance

and achievement. Student work is automatically graded and tabulated in the Acellus Gradebook, time worked is logged and calculated by the system, and available in an easily generated report and transcripts and student report cards are accessible at any time by the teachers and administrators at the local school.

Ensuring Academic Integrity in the Online World

Ensuring the academic integrity of a virtual, independent studies program can be challenging, as well as time consuming for the teachers and staff involved. Acellus was designed to reduce the work load of the teachers — doing much of the mundane work automatically — so that teachers can spend their time where it's needed most. Every action done by students is recorded in the Acellus system, including every time the student logs in, each answer entered, and every grade achieved.

Acellus courses are standards-aligned, and provide a rigorous backbone for the virtual environment, but teachers can also supplement the courses with custom course material as desired. Custom lessons designed by the teachers can be uploaded to the system, and the grades integrated into the overall Gradebook. Teachers can also communicate with students through the Acellus messaging system.

Standards-Based Curricula

Acellus allows schools to offer a comprehensive suite of standards-based courses to students studying off-campus. All core courses are covered, in the area of mathematics, language arts, reading, social studies, and science. Foreign languages, career and technical education courses, advanced placement, electives, and ELL courses are also available. The wide selection of courses available makes it easy for a school to offer all of the courses needed for graduation and required by state standards.

Acellus courses are taught via tiered video instruction – each course is broken up into individual concepts, and each concept has multiple videos available. Acellus is able to customize the course to the individual pace and level of each student. As the student progresses through the course, every response is recorded and monitored, and through the Prism Diagnostics™ technology, personalized help videos are delivered right when the student needs assistance in a concept.

After-School Programs

Learning doesn't stop when the bell rings...

With the pressure of preparing students for high-stakes tests requiring teachers to focus on Math and ELA instruction during the school day, little time can be left for enrichment activities, such as STEM and Robotics programs. After School programs are a very effective way to provide extra help to struggling learners, along with incorporating additional activities that may not fit into the regular school schedule.

Acellus can leverage After School programs in providing customized academic support targeting specific areas of weakness. Acellus courses are taught via video instruction, and combined with adaptive and interactive assessments on each concept. Using Vectors Instruction and Prism Diagnostics™ Acellus adapts the course of instruction to the specific needs of each student, providing customized,



Figure 24: Acellus leverages After School programs, providing customized academic support targeting specific areas of weakness.

personalized instruction to fill specific holes in their understanding. This method of differentiating instruction is very effective in helping students master course content – even for courses previously failed. By filling in foundational gaps in their learning, students are able to quickly catch up to grade level expectations.

Opening new horizons by offering STEM and Robotics after hours...

For After School programs wanting to incorporate more enrichment activities, the Acellus STEM-10 Robotics Lab creates an environment tuned to give students a discover-and-create learning experience. The Acellus STEM Lab program empowers After School facilitators to offer effective coding and robotics courses without the need for extensive additional training.

The specially designed STEM Learning pods include all the tools exceptional learners need to be creative and productive. The Acellus STEM Lab utilizes cognitive instruction, a method of instruction that achieves student learning through the process of acquiring knowledge and understanding through thought,

experience, and the senses. Rather than only working through a simulated environment, Acellus STEM Labs provide students with actual robots to program.

Immediate feedback on their work comes to them visually via the video console — and also directly from their new learning pals — “Cellus Bot” or the more advanced “AC-D2”.

Teacher Development

The Institute of Science and Technology (IST), the educational arm of the International Academy of Science, offers a graduate degree program to specialize in technology-based instruction in a blended learning environment. IST offers teachers the opportunity to further their own academic goals by enrolling in the Doctor of Research in Education (DRE) program. This program is designed to help educators meet the demands of quality online and blended learning curriculum development and teaching in the 21st century. This advanced degree program empowers graduate students with hands-on experience in the application of both content and pedagogical knowledge in online and blended learning.



Figure 25: The Institute of Science and Technology (IST), the educational arm of the International Academy of Science, offers a graduate degree program to specialize in technology-based instruction in a blended learning environment.

Gifted and Talented Programs

Empowering Creative Students to Excel

Learners who show evidence of high achievement, such as gifted and talented students, often have unique requirements that require specialized instruction in order for them to fully develop their capabilities. Providing an educational experience that is varied, and meets the needs of these students, is a continual challenge and one that is hard to solve in a traditional classroom. Acellus allows students to move forward on an accelerated path, and differentiates the instruction so that students with various skill levels are not held back.

Acellus offers a diverse selection of courses, fostering the interest students have – whether it is in core academics, music and the arts, or STEM related.

Content Specifically Designed for Gifted Students

A special accelerated mode of Acellus has been developed specifically for gifted students. The accelerated mode is taught on a more advanced level, and often includes more advanced terminology than the traditional course. The course assessments and exams are also more complex, providing a rigorous course option to keep these gifted learners challenged.



Figure 26: A special accelerated mode of Acellus has been developed specifically for gifted students. The accelerated mode is taught on a more advanced level, and often includes more advanced terminology than the traditional course.

Teachers can choose based on the needs of each student which mode the student is enrolled in. Through the Acellus Success Zone reports, Acellus will suggest to teachers when it is recommended that students be moved into the accelerated mode for the class(es) they are enrolled in.

Tutoring

One-on-One Tutoring for Every Student

Tutoring has been proven to be an effective method of helping students that are struggling in a course and need extra help, as well as students that are on an honors-bound college track and want to keep up their perfect 4.0 GPA. The problem is that not every student who would benefit from one-on-one tutoring is able to receive this timely intervention — cost is often a prohibitive factor to students with the greatest need.

This is a challenge that fits perfectly with the mission of Acellus — to provide every student the instruction they need right when they need it — and still make it cost effective.

A special mode of Acellus has been developed for the purpose of providing tutoring to students. This mode can be turned on for any Acellus course offered through Acellus. When the “Tutoring Mode” is activated, students can access the individual lessons on any concept taught in the course, and jump to a specific video to get help with a particular concept.

Professionally Filmed, Engaging Videos taught by America’s Greatest Teachers

Each concept is taught through video-based lessons featuring some of the greatest teachers in America. These instructors have expertise in explaining “hard to grasp” concepts and bring the subject material

to life. The concepts covered in these lessons are presented to the student in such a way that learning becomes fun and engaging – and students can relate what they are learning to the real-world.

Interactive assessments and exams are also available to the student at any point to help the student practice the material, and receive the feedback needed, to gain mastery on each topic. When deficits in the student's knowledge is identified, the powerful Prism Diagnostics™ technology kicks in to help fill the gaps in understanding — paving the way to success in class.



Figure 27: A special mode of Acellus has been developed for the purpose of providing tutoring to students. This mode can be turned on for any Acellus course offered through Acellus. When the “Tutoring Mode” is activated, students can access the individual lessons on any concept taught in the course, and jump to a specific video to get help with a particular concept.

The Blended Approach

The Acellus Tutoring mode is effectively utilized by teachers using a blended method of instruction. One way this is accomplished is by teachers presenting the instruction to students in a traditional classroom format, and then having the students complete their homework online using the Acellus Tutoring mode. Lesson problems are automatically graded by Acellus, and reports are generated for the teachers overseeing the classes. The Live Class Monitor allows teachers to see “real-time” how their students are doing, empowering them with the knowledge to intervene — knowing the exact problem students are having.

Correctional Education

Providing a Path Forward to a Successful Future

Thousands of incarcerated adults and juveniles leave the nation's prisons and detention facilities each year. While many successfully transition back into their communities becoming productive members of society, many others commit new crimes and end up being re-incarcerated.

Lack of education and skills has been shown to be one of the key reasons why ex-prisoners don't succeed. This makes education a crucial service provided in correctional facilities across the Nation. The challenge

however, is providing education to a transient population with varying levels of mastery in a restricted environment.

Providing education to youths incarcerated in juvenile correctional facilities has been linked to lower the rates of recidivism and offer a better reintegration upon leaving detention. Acellus provides these facilities with an educational solution that allows inmates access to any course they may need, while also differentiating the course of study to their individual skill set and level.



Figure 28: Acellus career and technical education courses provide career-related education experiences – and prepare students to earn industry recognized credentials.

Targeted Instruction at Every Skill Level

Acellus offers courses in every core area, and at every level, to make it possible for inmates to have the instruction they need to succeed. Courses are available K-12 in all core areas, as well as GED preparation, Career and Technical Education courses, and special elective offerings. Along with providing a diverse and flexible suite of courses, Acellus courses are also tailored to the pace of the individual learner. This is possible through the technology of Prism Diagnostics™, and the impact of the customized instruction that is delivered at the moment the deficiency is identified.

Career and Technical Education

Making Re-entry Into the Workforce Possible

Preparing incarcerated adults and juveniles to enter society successfully entails not only helping them to get their high school diploma or a GED, but also enabling them to enter the workforce. Acellus career and technical education courses provide career related education experiences, while taking the experience a major step further, by allowing students to earn industry recognized credentials. These industry recognized credentials are extremely valuable. The credentials let employers know that this student is work-ready on day one.

College Prep

College and Career Ready

Empowering Students to Achieve Their Full Potential

College readiness is more than just graduating from high school and deciding which college to attend. In this ever changing world, the students of today have more diverse career opportunities than their parents or grandparents did. Many students need help discovering what interests them, and what they are good at, so they can make a plan for their future. The wide selection of courses offered by Acellus make it easy

for schools to offer a well-rounded education to students in preparation for the careers of the future. Acellus provides the core courses needed for graduation, but also many honors and advanced placement courses that can give students an advantage when starting college.

Be Ahead of the Curve – Enabling Students to Enter College with General Ed Credits Already Completed

Acellus offers schools an extensive selection of College-Board-Approved AP courses, allowing students to gain college credit while still in High School. Thousands of colleges and universities across the nation and internationally recognize AP courses, and will grant college credit to students with exam scores of 3 or higher. Many colleges also consider AP credit in the admissions process and when considering placement. Students with outstanding AP scores often have the opportunity to move into upper-level courses sooner, pursue a double-major, or even study abroad.



Figure 29: Because of the extensive and varied catalog of Acellus AP courses offered, students that apply themselves can actually complete most or all of the general ed college requirements while still in high school, saving precious time at college for courses in their field that actually advance them towards their career goals.

Because of the extensive and varied catalog of Acellus AP courses offered, students that apply themselves can actually complete most or all of the general ed college requirements while still in high school. This allows students advancement opportunities that wouldn't otherwise be possible, and enables them to spend more of their college time working on courses that actually advance them towards their career goals.

Targeted Instruction at Every Skill Level

An important aspect of college readiness is having a firm academic foundation. Acellus courses require students to demonstrate mastery in each lesson before moving on. Courses are taught via tiered video instruction – each course is broken up into individual concepts, and each concept has multiple videos available. Acellus adapts to the individual pace and level of each student. As the student progresses through a course, every response is recorded and monitored, and through the technology of Prism Diagnostics™, customized personal instruction (CPI) videos are delivered right when the student needs assistance in a concept. Additionally, teachers are provided with reports showing any areas of weakness that might need extra attention prior to taking an exam.

Courses Specifically Developed for College Readiness

Acellus has developed courses that are specifically focused on introducing students to the career options they may not be familiar with, and what education is needed for each one. The Acellus Investigating Careers course gives students an overview of many career options and the education, training, and skills

required for each. The Acellus College and Career Readiness course provides students with basic knowledge and skills they need to set real, attainable goals that will lead them on a path to success.

Knowing how to take a high-stakes test is almost as important as knowing the material covered. Becoming familiar with the format of the test can help students feel more confident in their ability to score well on the exam. With specialized exam prep courses available for college entrance and AP exams, students can become more familiar with test question formats and learn time management tips which can greatly improve their overall readiness for test day.

Chapter 3: Building Classes

In this chapter, we will discuss the steps you need to take to build classes:

Set Up Your Secure Sign-in

Add Teachers

- Remove Teachers
- GoldKey For Teachers

Add Students

Set School Defaults

- How Acellus Works
- Set the School Year
- Set the Grading Periods
- Set the Grading Categories School Defaults
- Set the Grading Scale

Build the Classes

- Create a Class
- Adjust Grading Categories and Weights
- Delete Classes
- Add Students to a Class

Print Sign-In Cards

Set Up Your Secure Sign-in

The Acellus Teacher Interface is protected by GoldKey Security using GoldKey Tokens and GoldKey ID, allowing authorized personnel to access the system securely from anywhere Internet is available and the GoldKey Software is installed. Before you can administer Acellus for your school or district, you must set up your secure sign-in using GoldKey. This requires you to have a GoldKey Token, to personalize it, and using it, to register in the Acellus System.

Your Acellus Server comes with several GoldKey Tokens. If you have not personalized your GoldKey Token and registered in the Acellus System, please see instructions for this in Chapter 1: Technical Concerns, under the heading *The GoldKey Security System*. If you have not received a registration email, please contact the person at your school who will administer the Acellus Program, or your Acellus

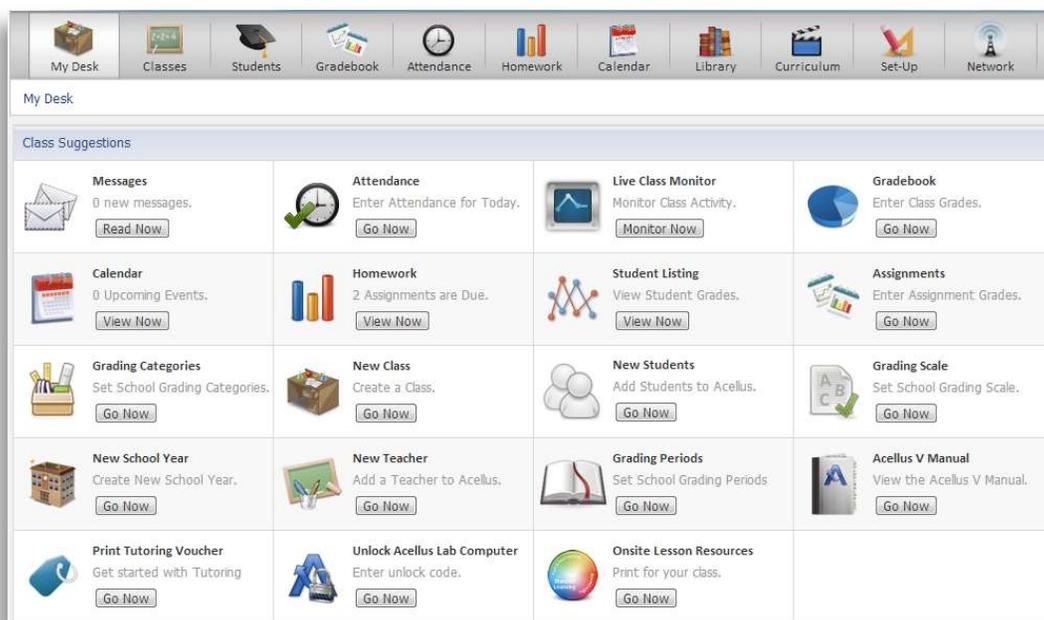


Figure 30: The options on the My Desk screen provide you with quick links to the administrative tools.

Coordinator (see contact information in the *Appendix*), and then continue with the instructions provided in *Chapter 11*.

With your GoldKey personalized and your registration done, you will next see the screen called My Desk (See Figure 30, above). Here you can access all of the administrative tools and resources for the Acellus System.

Step A: Add Teachers

Because the Acellus Teacher Interface is protected by GoldKey Security, each Teacher will need a GoldKey to access it. *(Note: If you do not have enough GoldKey Security Tokens, contact your Acellus Coordinator – see contact information in the Appendix).*

The GoldKey set-up and Acellus registration process has been streamlined to make it as simple as possible. Each teacher must be added to the Acellus System (*My Desk* → *New Teacher*). When a teacher is added, he or she is automatically emailed a link that initiates the process of personalizing the GoldKey and registering the Teacher in the Acellus system.

It is up to you to decide whether you will set up the Teachers or have them do it themselves, and whether you will distribute the GoldKeys first or add the Teachers to the system first. The important thing is that this process has to be done for each teacher.

To add a Teacher to the Acellus system, do the following:

- 1) From *My Desk*, select *New Teacher* (or select *Set-up* → *Administration* → select the plus sign beside the *Teachers* heading.)
 - 2) Fill out the New Teacher form. Points to be aware of:
 - A. The Acellus ID will be generated when you submit the form.
 - B. Be sure the Teacher's email address is correct, so they will receive the set-up email.
 - C. Permission levels include the following:
 - i. Monitor – can look at records for all classes, but cannot change anything. Often Superintendents and Principals prefer this level of involvement.
 - ii. Teacher – can access records only for their own classes; can add only their own students and classes.
 - iii. Administrator – can access records for all classes, teachers, and students at your school. In general, we recommend only two or three users be given Administrator privileges. It is helpful to have more than one Administrator for days when the primary Administrator is away from school and this privilege level is needed.
 - D. Be sure to indicate whether or not this user will have the ability to change the Network settings for the server (usually this should be set to “No.”)
 - 3) Next the following things will happen:
 - A. The Teacher's Acellus ID will appear at the top of the Teacher Data screen.
 - B. A Registration Code will appear at the bottom of the form. This code will only be shown here until the Teacher has completed the Acellus registration process.
- C. The teacher will receive the set-up email. *Note: Each teacher must use his/her own email link.*

The screenshot shows the 'Teacher Data' form in the Acellus system. The form is titled 'Teacher Data' and contains the following fields and values:

Acellus ID	567-270-0318
Salutation	Ms.
First Name	Jane
Last Name	Example
E-mail Address	jexample@myschool.org
Gender [Optional]	<input type="radio"/> Male <input checked="" type="radio"/> Female
Administration Level	<input type="radio"/> Monitor <input checked="" type="radio"/> Teacher <input type="radio"/> Administrator
Network Privileges	<input type="radio"/> Yes <input checked="" type="radio"/> No
Registration Code	d89397567688

A yellow box at the bottom of the form contains the following text:

This login requires the user to have a GoldKey.
An email has been sent to the address provided with a link to complete this Acellus Teacher's Registration. [Resend Email](#)

A 'Return' button is located at the bottom right of the form.

Figure 31: As noted above, the new Teacher will automatically be sent an email that will get them started setting up their secure sign-in.

Notice that the email to the teacher can be resent using the link in the yellow box. Detailed information for the GoldKey set-up and Acellus registration process can be found in Chapter 1. Teachers may need your support to complete this process. You may want to provide them with a copy of this Handbook:

<http://www.science.edu/Acellus/handbook/>

Note: Once teachers have been set up in the system, they can access this handbook from the My Desk screen (see the Acellus V Manual link).

Remove Teachers

If you need to remove a teacher from your school's Acellus system, follow these steps:

1. Go to *Set-up* → *Administration*.
2. Select the Teacher(s) you want to remove by checking the box beside each name.
3. Select the “minus” sign to the right of the *Teachers* heading.
4. Indicate that you are sure you want to do this.

Or, follow these steps:

1. Go to *Set-Up* → *Administration*.
2. Click on the Teacher's name.
3. On the *Teacher Data* screen, select *Remove Teacher*.

Be sure to assign a new teacher to the removed teacher's classes.

Step B: Add Students

To add students, go to *My Desk* and select *New Students*, or return to the *Administration* screen (*Set-Up* → *Administration*), and then select the “plus” sign beside the *Students* heading. Using the *Student Data* screen (Figure 32) you can enter students one at a time. The Acellus ID and Password will be added automatically when you select *Submit*.

You will notice that a small amount of demographic information is requested about each student. These fields are optional, but we recommend that you fill them out. This information is used to help make Acellus a more effective tool for learning. When students' answers are analyzed, demographic information is taken into account and can be used to create customized content. In addition, this information can become important when you are working on obtaining funding such as Title funding for your school programs.

Note: If it becomes necessary to change a student's password, you can do so by selecting the Generate New Password button. Once this has been done, you can use the Print Quick-Start Cards tool to give the student his/her new password.

Class Builder | Grading Options | Print Quick-Start Cards | Administration

Select a Student: Aberdeen, Shirley

Import Students | New Student | Remove Student

Student Data

Acellus ID:

Password: [Generate New Password](#)

First Name:

Last Name:

Grade Level:

E-mail Address [Optional]:

Gender [Optional]: Male Female

Date of Birth [Optional]:

Ethnicity:

Economic Status:

Native Tongue:

Figure 32: Select the New Student option to access the Student Data screen and add students one at a time. Note that on the Student Data screen, the Select a Student pull-down is active. You can select an existing student in this list to see and edit the student's profile.

To add many students at once, select *Import Students* from the light blue menu bar on the right side of the screen (see Figure 32). To import an existing student list into Acellus, download the .xls Template file and import it into your spreadsheet program. This file provides a template. Please do not change the headings. When you have loaded the template with your data, save it and to import the data into Acellus.

Step C: Set School Default Options

In the *Set-Up* section, there are several options that should be set to start with:

- The Current School Year
- The Grading Periods
- School Defaults for Grading Categories and Weights
- The Grading Scale(s)

Class Builder | Grading Options | Print Quick-Start Cards | Administration

Import Students | New Student | Remove Student

Import Students

To import an existing student list into Acellus, download the .xls Template file and import it into your spreadsheet program. This file provides a template which includes fields for the Acellus database. When you have loaded the template with your data, save it and use the Import Selection area to import the data into Acellus.

[Download Template](#)

Import Selection

No file chosen

Figure 33: The Import Students option speeds up the process of adding students.

How Acellus Works

It will be easier for you to decide how to set class defaults if you understand the basics of how the Acellus Learning System works.

Acellus uses a technology called Prism Diagnostics to determine where each student needs help. Students are presented, first, with a video that teaches just one concept. Following the video, they are presented with practice problems that test their comprehension of the concept taught in the video. When the students can answer three problems correctly in a row, they move forward and are presented with the next video. (The required number of correct problems can be changed by a teacher or administrator.)

However, if the students demonstrate that they do not understand the concept, they are shown the video again, or shown another video that explains the same concept in greater detail and with different examples. Next they are given practice problems again, through which they again demonstrate their level of understanding. If they still do not understand, they are set back to an earlier video to pick up underlying concepts that they have misunderstood.

Acellus goes even further, adding Customized Personalized Instruction (CPI). Over time, student answers from all over the country are compiled into a database for analysis. As these answers are reviewed, it is found that for many problems, a significant percentage of students enter the same wrong answer. When such a common wrong answer is discovered, the problem and answer are analyzed to discover exactly what is causing the problem in student understanding. Sometimes the lesson video is re-filmed for clarification. Sometimes instructions given for the problem are revised – or the problem itself is revised. Sometimes, however, a short video is produced to give the student the specific knowledge that they need at the moment they enter the answer. The video is put into the Acellus System, and from then on, when students enter that specific wrong answer, the special CPI video is automatically presented, correcting the students' understanding immediately so that they can go forward with a solid foundation.

Periodically, to help with memorization of vocabulary, facts, etc., students are shown Memorization Videos, or are given Drills which give them practice pulling information from their memory.

As students move on through the program, they may be less than completely motivated to obtain the knowledge that is readily available for them in the Acellus System. However, each Acellus Course is divided into Units, each of which includes a Unit Review and Exam. When students know that an Exam is just ahead, many of them begin to realize that they need the knowledge they may have been skimming over. The unit review catches them at this critical learning moment – when they *want* to obtain the knowledge so that they can pass the exam.

The Review goes over each concept taught in the unit one more time, giving the student practice problems for each concept covered in the exam. Alternatively, they can skip forward if they feel they already know the material.

Reviews are “free.” No wrong answers in Reviews are counted against students’ grades. They can watch videos, do problems, and review notes. When they are finished, the Exam is presented.

The Exams are made up of problems testing each of the concepts taught in the unit. On the Exam, if the students demonstrate that they do not understand one or more of the concepts, they are set back to work on those concepts again by repeating the lesson where it is taught. Then they are again given the opportunity to work through a Review, and then to demonstrate that they now understand the material by taking the Unit Exam again.

In addition to the Unit Exams, Acellus Courses contain a Mid-Term and a Final Exam, both preceded by a Review. Like the Unit Exams, the Mid-Term and Final Exams analyze the students’ performance and set them back to repeat concepts they have not learned.

When a student successfully finishes a course, this course will disappear from the student’s list of classes (on the *Select a Class* page). The student’s record will still appear in the Teacher Interface, so a teacher can look at it in the Classes or Gradebook section and the grades and answers are still accessible, but the student will not see the course. *Note – The student must be repositioned BEFORE the Final Exam.*

If the teacher wants the student to do more work in this course, he or she can reposition the student to the desired point in the course, and the course will be given as an option to the student again – until the course is once more completed.

Note: each time the student completes a course, a record is written to the Archives.

Now, with a basic understanding of how Acellus works, we will discuss setting the school default options, which include the following:

1. Set the School Year.
2. Set the Grading Period.
3. Set the Grading Categories.
4. Set the Grading Scale.

Set the School Year

Entering school years allows Acellus to keep track of records by school year, which enables you to archive the records, a year at a time.

On the *Set-Up* → *Administration* screen, if the current school year

Figure 34: The school year will be displayed as you enter it on the School Year Details form.



Figure 35: Give each grading period a name, then click on the starting date field to access the date picker (shown) to enter starting dates. Do the same for ending dates, then select Submit.

appears on the list of School Years, you don't need to do anything here – the year will be available when you set up classes. If the current school year is not on the list, set the School Year by doing the following:

1. There are two ways to access the *New School Year* feature:
 - a. On the *Administration* screen, select the “plus” sign to the right of the *School Year* heading.
 - b. On *My Desktop*, select the “Go Now” button on the *New School Year* option.
2. Enter the name for the school year. Example: 2013 - 2014.
3. Select the *Start Date* field and use the date picker that appears to select the *Starting Date*, or type in the date using this format: mm/dd/yyyy.
4. Select the *End Date* field and use the date picker that appears to select the *Ending Date*, or type in the date using this format: mm/dd/yyyy.
5. Select *Submit*.

Set the Grading Periods

The *Grading Periods* page allows you to set the Acellus System to match your term / semester grading system (see Figure 35). This enables Acellus to give students grades for each of the grading periods you define. To set Grading Periods, do the following:

- From the menu, select *Set-Up*.
- On the blue menu bar, select *Grading Options*.

The system automatically sets up four grading periods. You can edit the names or dates of these periods as desired, or do the following to create a new grading period:

- Select *New Grading Period*.
- Enter a name for the new grading period – for example, “First Quarter,” “Second Quarter,” etc.
- If the dates you want appear in the *Starting* and *Ending Dates* fields, do nothing in these fields. If the dates that appear are not correct for your school, use the date pickers to set the *Starting* and *Ending Dates*.
- Select *Submit*.
- Repeat for another new Grading Period.

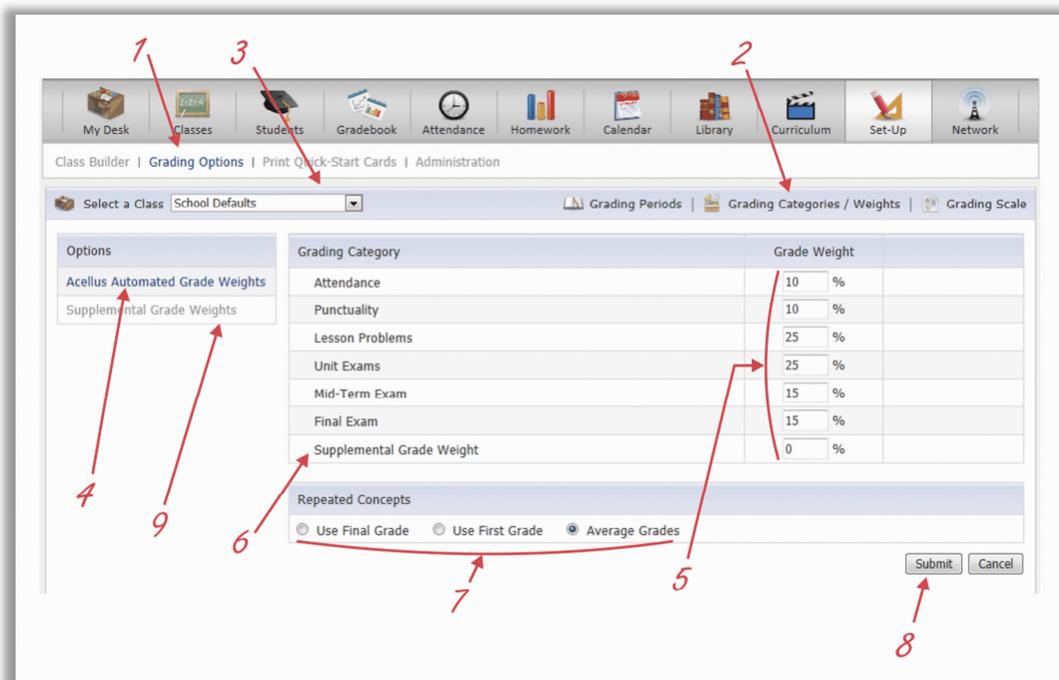


Figure 36: The Acellus Automated Grade Weights Categories include Attendance, Punctuality, Lesson Problems, and Exams, and one category for the Supplemental Grade Weight. Enter the percentage of the total grade that each category will be used for. Sub-categories within the Supplemental Grade Weight are set by selecting Supplemental Grade Weights (9).

Set the Grading Categories School Defaults

Note: The red numbers in Figure 36 correspond with the numbers in the following list:

1. In the *Set-Up* section, select *Grading Options*.
2. On the blue menu bar, select *Grading Categories / Weights*.
3. Make sure that “School Defaults” appears in the pull-down list labeled *Select a Class*.
4. Set the percentages as you want them for each category to be considered as part of the students’ grades.
5. If you plan to input extra assignments that you will grade yourself, be sure that the *Supplemental Grade Weight* is set to reflect the grade weight percentage that those assignments will be given.
6. Be sure to indicate how you would like Acellus to handle repeated concepts – by using the final grade for the concept, by using the first grade for the concept, or by averaging the grades for the concept
7. [Select the Submit button to save the changes.](#)
8. Select the *Supplemental Grade Weights* button to set the categories and percentages for classes that do not use Acellus courses, and for supplemental assignments for your Acellus classes (see Figure 37). The percentages on this page should add up to 100%.

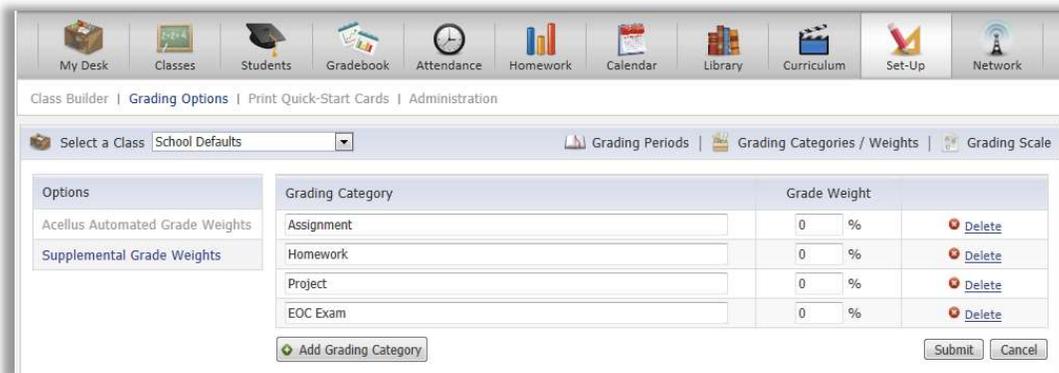


Figure 37: To add a grading category, select the Add Grading Category button, name the new category, and assign a percentage to indicate how much of the total Supplemental Grade the category will be used for. To delete categories select Delete on the far right.

Set the Grading Scale

The Acellus system calculates grades based on a Grading Scale. Acellus provides three “standard” Grading Scales to get you started, as well as the ability to set custom grading scales. It is a good idea to check the School Default settings and adjust them as needed to match your grading scale(s). This will ensure that whichever scale is chosen for a class, the grades for the class can be calculated properly.

The standard grading scales include the ABCDF scale, which includes plus and minus grades, but not A+; the ABCDF+ scale, which includes all plus and minus grades including A+; and the ESMIF scale, which includes Excellent, Satisfactory, Medium, Inferior, or Failed, with plus and minus grades.

Whether you are setting up a standard or a custom Grading Scale, you should enter both a percentage and a grade point for each letter grade. Without the percentages set, student grades will be displayed as “0%”. Without the grade points set, Acellus cannot calculate the grade point average.

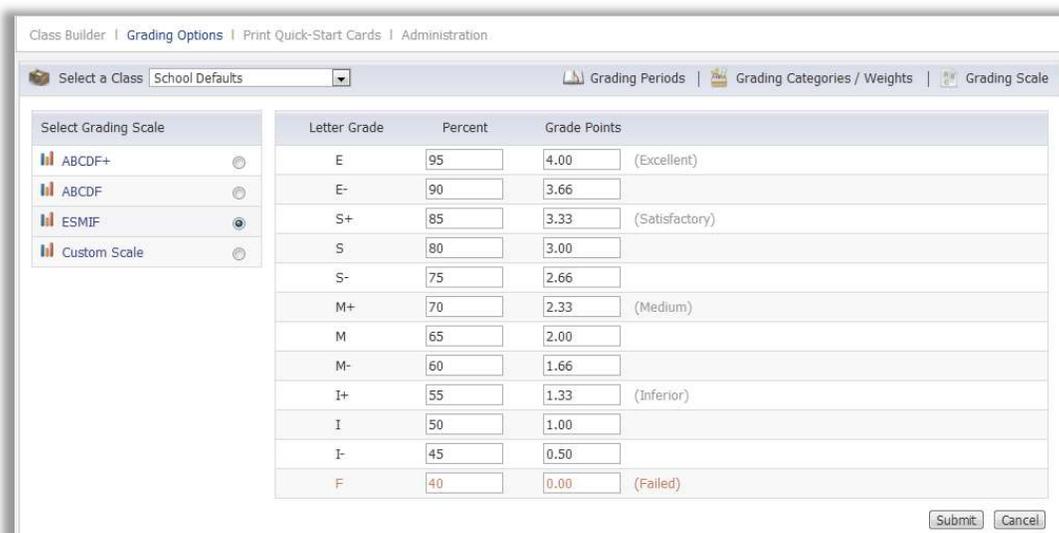


Figure 38: The ESMIF grading scale is shown here.

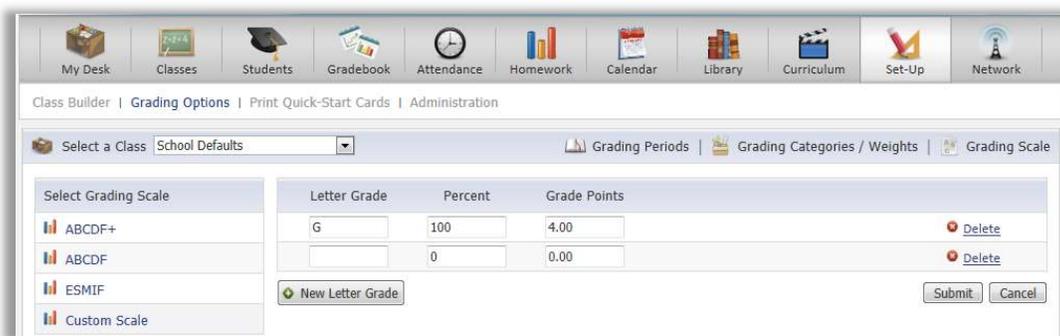


Figure 39: You can create your own grading scale, if your school or district uses something other than the three methods provided.

To create a custom grading scale, select *Custom Scale*, then *New Letter Grade*. Enter the *Letter Grade*, the *Percent* students must achieve, and the *Grade Points* they will be given. Select *Submit*.

If you want to create and use more than one *Custom Grading Scale*, create the first one, then create the classes that will use it and assign the *Custom Scale* to those classes. Next, on the *Grading Scale* page, select *School Defaults* and *Custom Scale*, and change the Custom Grading Scale as desired, then select *Submit*. You may then create the classes that will use this Custom Scale.

The classes will retain the version of the Custom Scale that you assigned to them when the class was created.

Step D: Build Classes

With Teachers and students in the system and school defaults set, it is time to build your classes.

Create a Class

To create a new class, follow these steps:

1. To go to the New Class screen, do one of the following:
 - i. From *My Desk*, select *New Class*.
 - ii. Select the *Set-up* button, then the “plus” sign beside *Select a Class*
 - iii. Select the *Set-up* button → *Administration*, then the “plus” sign next to *Classes*.
2. Fill out the *Class Info* form (see Figure 40).
 - i. Notice that one of the options in the *Acellus Course* pull-down is “none.” The Acellus System can be used to manage classes that do not use the Acellus Courses.
 - *Be sure to set an Acellus Course for classes that will use Acellus. If you do not set the course, the program will not respond when the students select this class from the Class List.*
 - *Note: Since the Acellus Licenses are for record keeping and not for courses, a license fee will be incurred when you add students to non-Acellus courses, just as for Acellus courses.*

- ii. If you select *Turn On Auto-Placement*, Acellus will automatically enroll students in the next recommended course when they have completed this course. (This option is not available to Teachers.)
- iii. Set a Class Name. This is the name that you, your students, and your administrators will see for the class, so this name should be descriptive and unique.
- iv. The Subject Number is optional and is provided for schools such as colleges that assign each course a number indicating the subject matter.
- v. Select the appropriate Grade Level.
- vi. Be sure to select the correct Teacher for the class – and notice that you can select additional Teachers using the checkboxes in the teacher list on the right. The main Teacher as well as the additional Teachers will have access to the records for this class.
- vii. Setting the Room for the class is optional.
- viii. Set the Grading Scale for this class. (For more information about grading scales, see *Set Grading Scale*, above.)
- ix. You can set the goal as a “Class Goal” with a course completion date, or as a “Weekly Goal” with the number of steps to be completed each week. Either way, you need to set both the *Class Goal* type and a default value for it. The Teacher can later adjust the value for each student, as needed, by going to *Classes*, selecting a class, and then going to the *Goals* page.
- x. Select the appropriate School Year.
- xi. Notice that you can set the “Credit Hours” for this course.
- xii. By default, Acellus requires students to answer three problems correctly in a row before moving them to the next lesson. In addition, Acellus responds to three wrong answers in a lesson by setting the student back to repeat the lesson, or, if that has already been done, to repeat the

Figure 40: The New Class screen gives you many options for customizing the Acellus experience for your students, from setting an overall course completion date or a weekly lesson goal, to turning video controls on or off, to using Acellus’ automatic attendance tool or manual attendance.

- previous lesson. The *Problem Count* settings on the New Class form allow you to adjust the number of correct answers required in a row before a student can move forward, and the number of wrong answers that can be entered before Acellus sets the student back.
- xiii. The Video Controls are set to “off” by default. However, this setting allows you to turn student video controls on or off for this class.
 - xiv. Attendance can be kept by Acellus based on the “Days Worked” or on “Class Time.” If you choose to “Use Days Worked,” students are counted as present no matter what time of day they work on Acellus. If you select “Use Class Time,” you will be asked to enter the *Begin* and *End Times*, to indicate whether Acellus should mark students absent and/or tardy, and how many minutes after class begins the students can begin working on Acellus before they will be considered tardy.
 - a. If you leave *Don’t Mark Absent* and *Don’t Mark Tardy* selected, the automatic attendance feature is essentially turned off. This allows the teacher to take attendance manually with the Acellus Attendance tool, if desired.
 - b. If you un-select *Don’t Mark Absent* and *Don’t Mark Tardy* and enter the Begin and End times and the Tardy Time, Acellus will keep track of who is present during class time, who is tardy, and who is absent.

Adjust Grading Categories and Weights

If the class you have just created needs grading weights other than those you previously set up, do the following: go to the *Set-Up* section, go to *Grading Options – Grading Categories / Weights* and adjust the *Composite Grading Categories and Weights* and the *Acellus Automated Grade Weights* for the class you have just set up. **Be sure to select the class you want to adjust.**

Lowest Passing Score

Additionally, make sure that the *Lowest Passing Score* is set as you want it to be. This is the score that a student must achieve in order to pass an exam. On the *Grading Categories / Weights* screen, **when you select a course**, the *Lowest Passing Score* field becomes visible, and will be filled with the default passing score. Set the score as you want it, and select *Submit*.

The screenshot shows a form titled "Repeated Concepts". It has three radio buttons: "Use Final Grade" (selected), "Use First Grade", and "Average Grades". To the right of these buttons is a text input field containing "75.000" and the label "Lowest Passing Score". At the bottom right of the form are two buttons: "Submit" and "Cancel".

Figure 41: Select a class to see and edit the *Lowest Passing Score*. This field indicates the score students must achieve in order to pass exams. This field is set on a class-by-class basis.

Delete Classes

If you need to delete a class, select the *Set-Up* button in the Menu Bar, then select the class you want to delete (in the pull-down on the left, under *Select a Class*). Select the “minus” sign to the right of the *Select*

a *Class* heading, and after you have confirmed this action, the class will be deleted. The students who are registered for this class will not be deleted. When they are added to another class with the same course, you will be able to see their data in the new class' records, and they will be able to continue.

Add Students to a Class

Once the class has been added, you can use the *Class Builder* page to add students in any of these ways:

- On the *Menu* bar, select *Set-Up*.
- From *My Desk*, select *Go Now* from the *New Students* section.
- Select *Set-Up* on the menu bar, or
- From any page within the *Set-Up* section, select *Class Builder* on the white menu bar.

On the *Class Builder* screen, use the *Select a Class* pull-down to select the class you want to add the students to (located in the upper-left corner of the screen). The names of all of the students who are not in the class will appear in the search results at the bottom of the page.

To limit the search, use the search criteria fields in the center of the screen. Please note:

- You can select different limiters: “and”, “or”, “not”.
- You can choose from several different fields to search: First Name, Last Name, Grade Level, Period, Course, Class, Score, Economic Status.
- You can choose from five different search criteria:
 - Contains
 - Available
 - Greater Than
 - Begins with
 - Complete

Note: Select Search Archives to find students whose records have been archived.

Using these options in combination, you can find pretty much any specific group of students that you might want to add to a single class.

Here are some examples:

- You could find all third grade students who are *available* during a specific class *period*.
- You could find all the students who are in grades *greater than* grade five.
- You could find all of the students whose *Grade Level Contains* “8” but whose *Course* list does *Not Contain* Algebra I.

You can also search for students whose records have been archived, by selecting the checkbox labeled “Search Archives,” located just below the search criteria fields.

When you have found the specific student or group of students you want to add, check *Select All* or select individual students as desired and then select “Add Students to Class.” Repeat these steps as needed until you have all of the classes built to your liking.

Note: When you add a student to a course that you do not have a license for, a license is automatically ordered and added to your system, and your school will be invoiced. There is no delay in this function – no need to wait for the server to update, as there was in earlier versions of Acellus.

Student Passwords and Sign-In Cards

Student passwords are automatically generated by Acellus. To distribute Acellus IDs and Passwords, print out student Sign-in Cards (*Students* → *Print Sign-in Cards*).

To change a student password, do the following:

1. Go to *Students* and search for the student.
2. When you have found the student, select his/her name and you will be taken to the student's *Report Card*.
3. Here you can select *Profile* from the blue menu bar.
4. Select the *Generate a New Password* button. The new password will appear on the profile page.

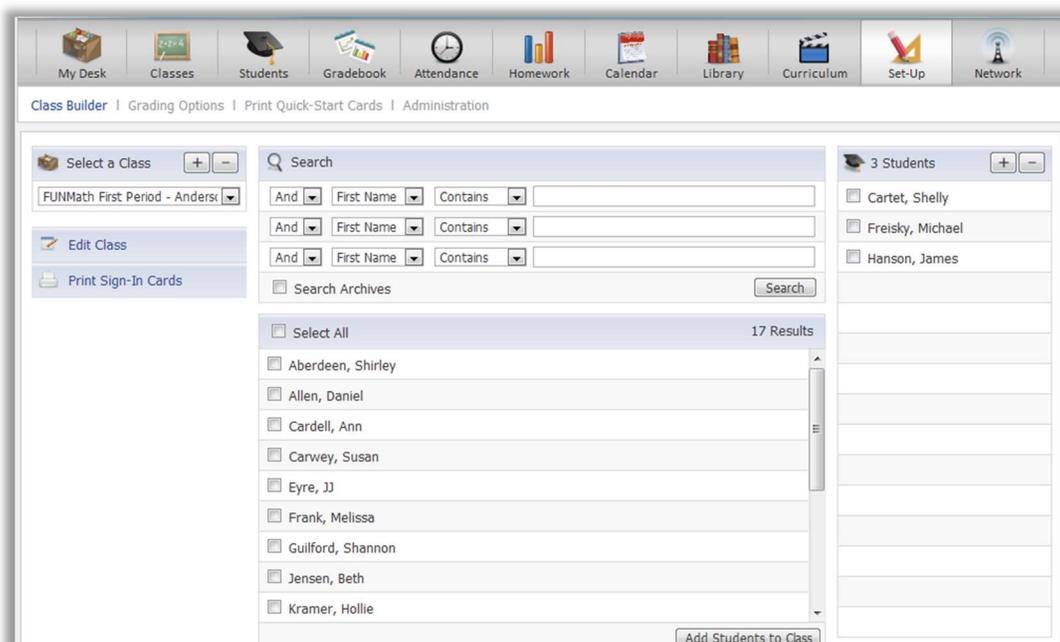


Figure 42: The powerful search feature allows you to add specific groups of students to a class all at once. You can even search for students whose records have been archived.

5. Print a new sign-in card for the student (*Students* → *Print Sign-in Cards* – see page 84).

Chapter 4: Managing Acellus Teachers

As the School Acellus Administrator, if you are to help empower Teachers to use Acellus to its full potential, it is important for you to know how the Teachers and students are doing and what resources you have at your disposal to help them. In this chapter we will discuss several ways that Acellus can assist you in this area:

Monitoring Teacher and Student Performance

Setting Calendar Events

Teacher Training Options

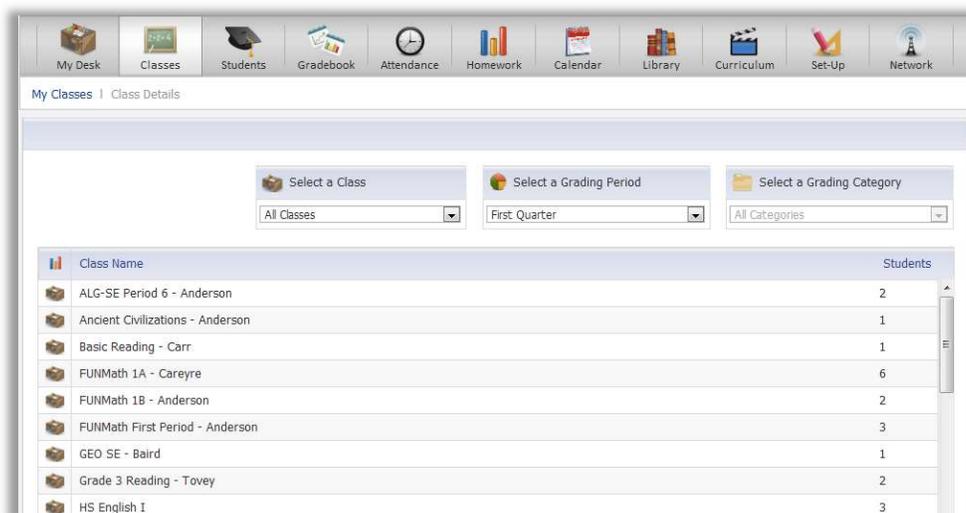
Monitoring Teacher and Student Performance

The Acellus System allows individuals with Administrator authorization to see the records of all classes and students. With this authorization, you can track classes and students so that you will know which teachers need your help. You can also print out a list of each of the classes using the *Print Report* button.

Track Classes

On the menu bar, select *Classes* to see a list of all classes (Figure 43). This report shows you all of the classes that have been set up and how many students are in each of them.

Select a specific class for more detail (see Figure 44). Here you can see the students' current positions in the selected class, as well as a visual indication of their progress in the course. You can also select a student to see more detail about the student's work in that class (see Figure 49 under *Track Students*).



Class Name	Students
ALG-SE Period 6 - Anderson	2
Ancient Civilizations - Anderson	1
Basic Reading - Carr	1
FUNMath 1A - Careyre	6
FUNMath 1B - Anderson	2
FUNMath First Period - Anderson	3
GEO SE - Baird	1
Grade 3 Reading - Tovey	2
HS English I	3

Figure 43: As an administrator, you can see all the classes.

Acellus ID	Student Name	Grade	Attendance	Current Position	Progress	Class Goal
567-270-0019	Aberdeen, Shirley	0%		1. Adding and Subtracting Whole Numbers	🟢	
567-270-0081	Cardell, Ann	0%		1. Adding and Subtracting Whole Numbers	🟢	
123-500-0092	Cartet, Shelly	0%		1. Adding and Subtracting Whole Numbers	🟢	
567-270-0082	Carvey, Susan	0%		1. Adding and Subtracting Whole Numbers	🟢	
123-500-0076	Eyre, JJ	78%		11. Prime Factorization	🟢	
123-500-0093	Hanson, James	0%		1. Adding and Subtracting Whole Numbers	🟢	

Figure 44: The Class Details screen gives you a summary of each student's progress. You can select a different Class or Grading Period to review, select a different Grading Category to see more or less data, or select a student to see still more detail. This report can be printed via the Print Report button.

The *Live Class Monitor* screen provides you with a list of the students in a class, showing what – and how – they are doing (see Figure 45). It includes the name of the concept each student is working on, a color-coded bar indicating their current status, and an icon indicating what type of step each is currently working on (video, problems, drill). For example, the word “Active” in a green bar indicates that the student is working on the displayed concept and making forward progress. The words “Extra Help Video” in an orange bar indicate that the student has skipped too many problems or entered too many wrong answers and they are being given an Extra Help Video. The words “Set Back” in a red bar indicate that, after seeing an Extra Help Video, the student has again exceeded the wrong answer limit and has been set back to the previous lesson. Select a student to see more detail about their work. This feature enables teachers to see which students need their help at any given moment.

Figure 45: The Live Class Monitor screen presents a list of the students in the class and what – and how – they are doing at any given moment.

The *Attendance – Report View* displays attendance for a month at a time for an entire class. Acellus attendance is color coded for easy assessment, and the report can be printed if desired (see Figure 46).

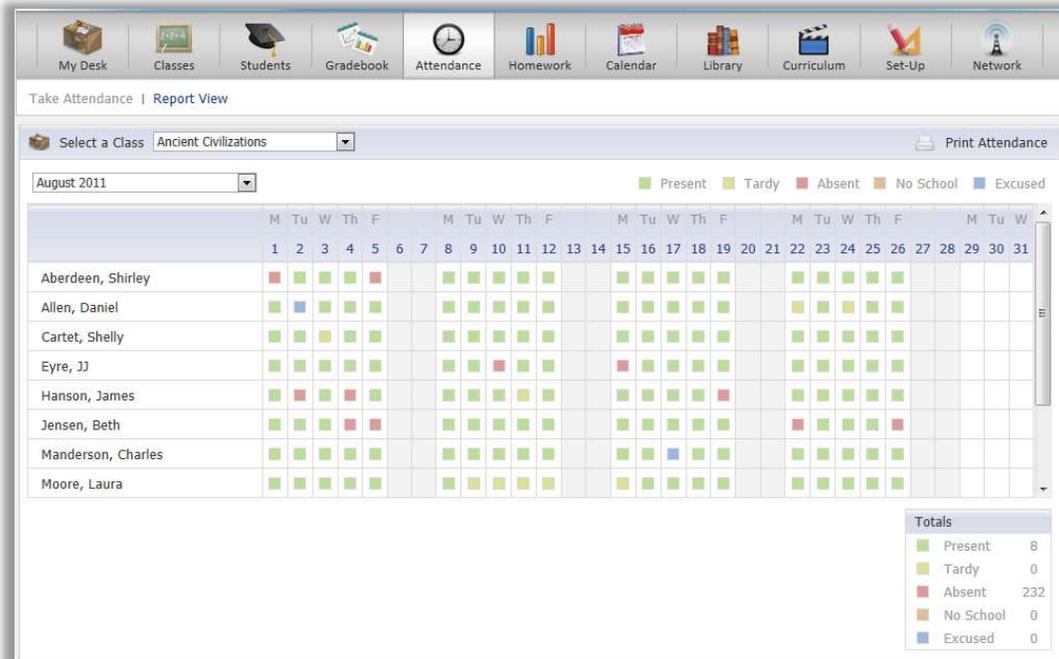


Figure 46: The color-coded Attendance report can be viewed one day at a time, or in the Report View, a month at a time.

Track Students

To review the progress of individual students, you may either select *Students* and use the alphabet list to search for a student by last name, or enter a letter or name in the search field (Figure 47).

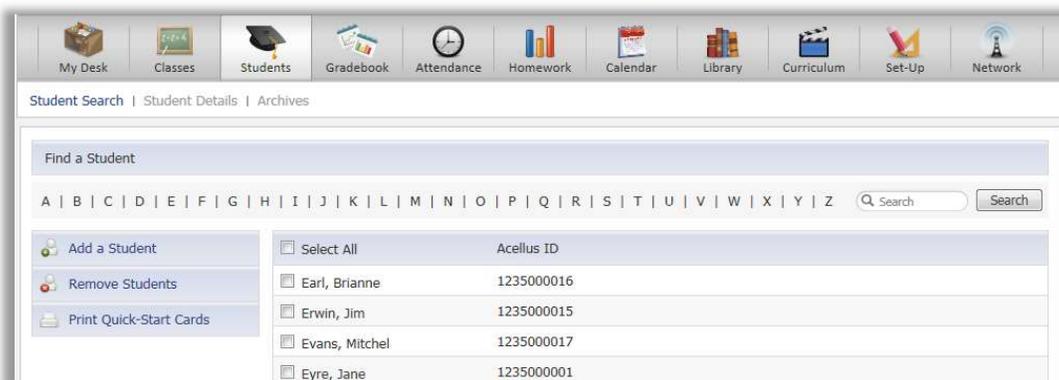


Figure 47: To track students, you can select *Students* on the top menu bar, then use the alphabet list to search by last name, or enter a letter or name in the Search field.

Student Report Cards

Select a student to see the student's Report Card. To print the Report Card, select the *Print Report Card* button. A printer-friendly version of the Report Card will appear. Select *Print*. As noted on the screen, for best results, select the landscape orientation option in your printer dialog box, then continue normally to print the *Report Card*.

Figure 48: Select a student on the search page to see the student's report card.

From the report card screen (not the print version), you can:

- Select a class to see details of how the student is doing in that class.
- Select a different student to see details, including a list of their classes, whether they have met their goals for each class, their current class grades, and comments from each of their teachers.

Figure 49: Specific details about a students' performance in each class is available by selecting a class on the previous screen (Report Card). The students' other classes can also be accessed from here using the Select a Class field. To print, select the Print Details button.

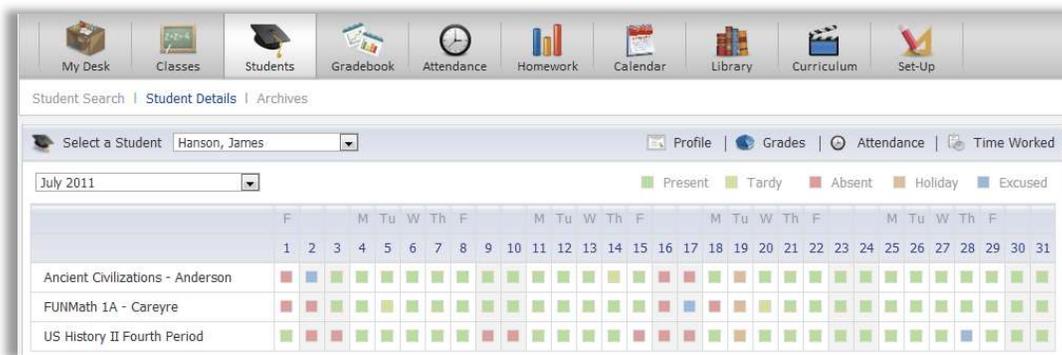


Figure 50: Like Class Attendance, Student Attendance is color coded. Select another student to see their attendance. Days present, tardy, absent, etc. are totaled below the table shown.

From the *Student Details* screen you can select a class to see specifics of the student’s performance in that class. Detailed information is available for each problem that each student has done. Select the *Attendance* link to see attendance presented a month at a time (see Figure 50).

Time Worked Report

The *Time Worked Report* (accessible on the blue menu bar from any of the *Student Details* screens) shows you how much time a student has spent on each of his/her Acellus classes each day for a month at a time, including monthly and yearly totals for each class, as well as total hours spent on Acellus.

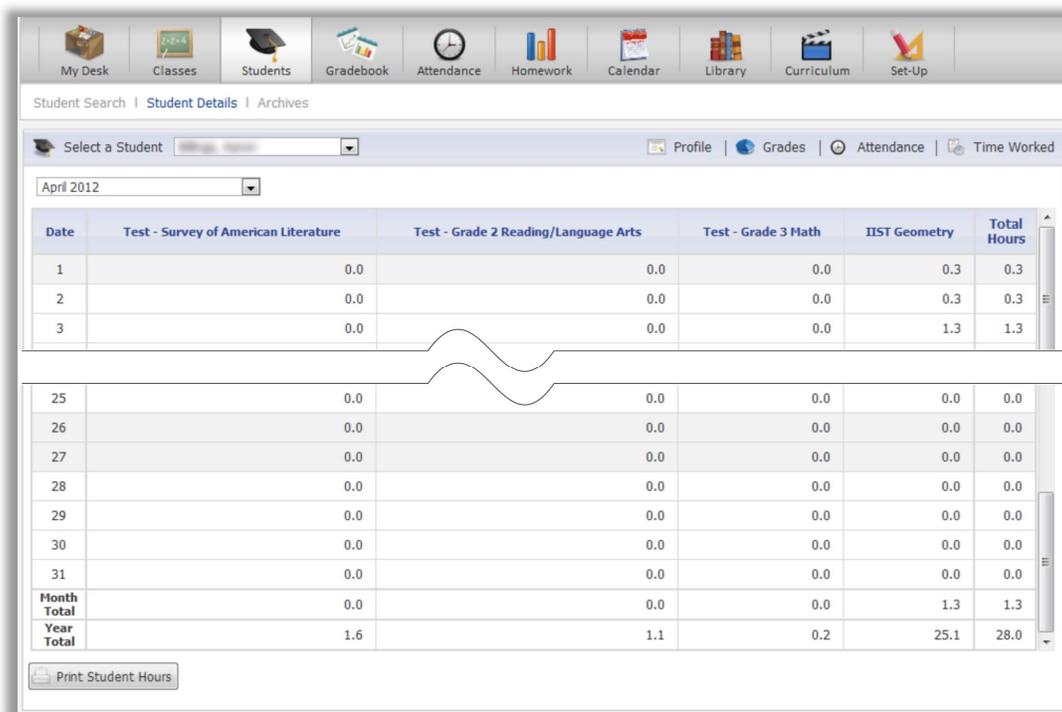


Figure 51: The *Time Worked Report* displays how many hours a student has spent on each of his/her Acellus classes each day for an entire month at a time. The total hours for the month and the current year are also shown here. Print this report by selecting the *Print Student Hours* button, found in the lower left corner of the screen.

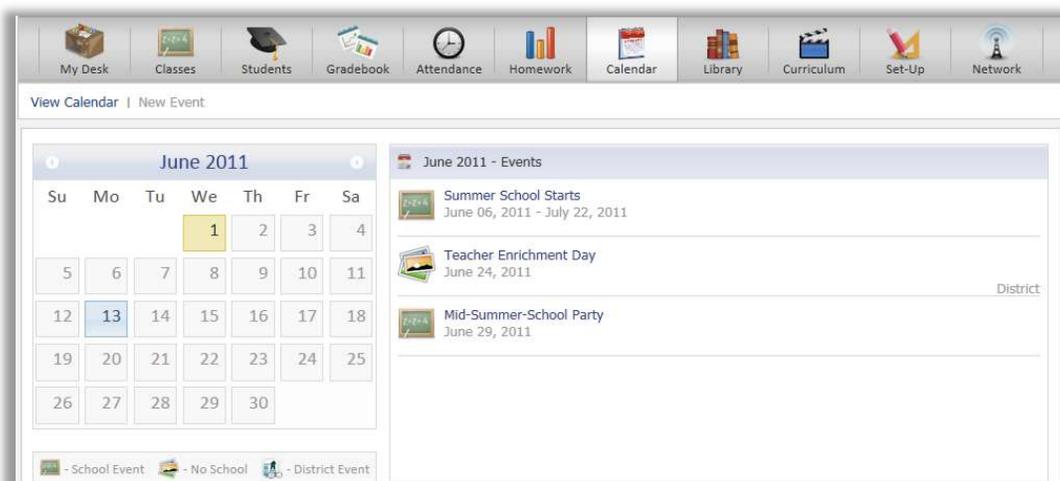


Figure 52: Students, Teachers, and Administrators can view the Calendar. You can choose whether to allow students to view specific events.

Setting Calendar Events



The Calendar can include events for the entire school, as well as district events and class events, if desired. Both Teachers and Administrators have the ability to add new events.

Teachers and Administrators can always view the calendar events – but you choose when you set events whether or not students will be able to see it. To create a new calendar event, select *New Event* (see Figure 53). Notice that you can enter an *Event Type* in addition to “School Event” or “No School Day.” These customized, more descriptive event types are displayed on the right side of the event listing, as shown by the event type, “District,” on the event *Teacher Enrichment Day* in the list above.

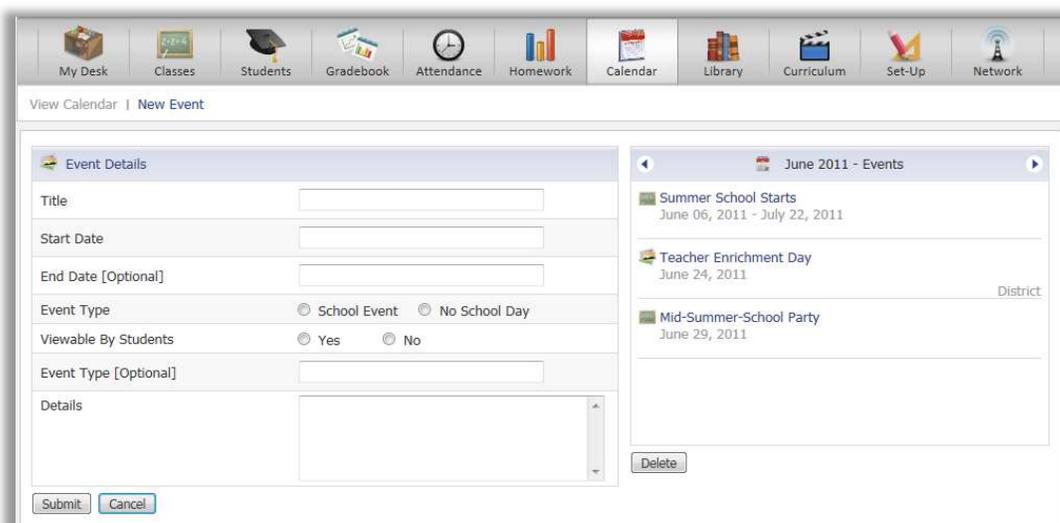


Figure 53: You can indicate whether the event is a No School Day or a School Event. Other event types can be entered in the second (optional) Event Type field.

Also notice, as mentioned above, that you have the ability to create events that students will not see – so Teachers can see events that are just for them. You also have the ability to remove events – just select the event and then the *Delete* button.

Teacher Training

Although the Acellus System is continually becoming more intuitive and user-friendly, as with any robust program, a little training makes a big difference in a teacher's ability to use it effectively. Acellus currently provides an on-site training option for training Teachers:

On-Site Training

Schools installing an Acellus server for the first time are encouraged to arrange on-site training and installation. After the server has been connected to the school's network, Acellus Specialists visit the school to check the equipment, assist in setting up classes, and provide training to the local staff.

Acellus On-Site Training has two parts -- the Executive Briefing and Teacher Training.

The Executive Briefing is designed for Superintendents, Principals, Curriculum Directors, and others needing a broad overview of the most effective ways to deploy Acellus in the district. The sixty-minute Executive Briefing is filled with multimedia instruction materials, including a video overview and demonstration.

During the Acellus Teacher Training, participants learn about the powerful features of Acellus including class set-up options, curriculum management, and advanced record keeping capabilities. Upon completion of this three-hour training experience, Teachers successfully passing the course may request IIST continuing education credit.

Contact your Acellus Coordinator for additional information on Acellus On-Site Training.

Chapter 5: Closing Out a School Year

At the end of the school year, as can be expected, there is some cleaning up to do. Not all of the steps below will make sense for every school, but in general, you will want to do the following:

Archive Classes

Remove Departing Teachers From the System

Archive Classes

To archive a class, on the menu, select *Set-Up* → *Administration* and, in the *Classes* list, select the class you want to archive. On the *Class Info* page, in the upper right corner, select the *Archive Class* Button (see Figure 54). This action will move a summary of the class data into the *Class Archive* and will remove the rest of the data from the Acellus database. You will be able to access these summarized records as needed.

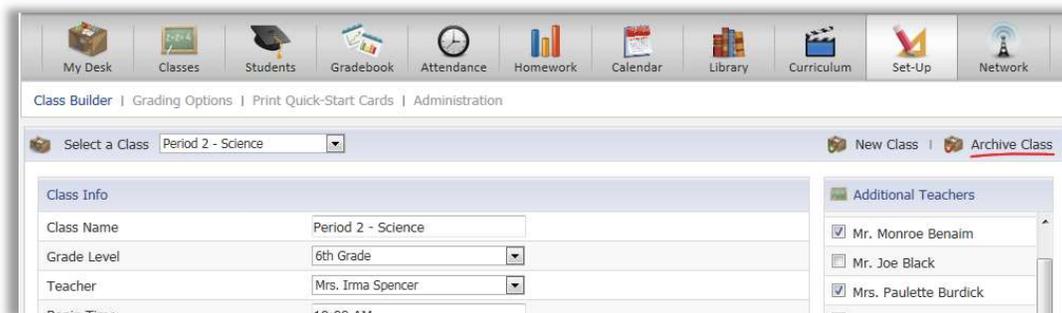


Figure 54: To Archive class records, select *Set-Up* → *Administration* and then select a class. On the *Class Info* screen select *Archive Class*.

Remove Teachers

When teachers retire or move to another school, you need to either retrieve their GoldKeys from them or purchase more GoldKeys for new teachers. You also need to remove departing teachers from your school's Acellus system to block them from accessing it in the future. Follow these steps:

1. Go to *Set-up* → *Administration*.
2. Select Teachers by checking the box beside each name.
3. Select the “minus” sign to the right of the Teachers heading.
4. Confirm the deletion.

Or, follow these steps:

1. Go to *Set-Up* → *Administration*.
2. Click on the Teacher's name.
3. On the *Teacher Data* screen, select *Remove Teacher*.
4. Confirm the deletion.

Section III: For Teachers

Acellus provides you, the Acellus Teacher, with tools to better do what you do. The Acellus Teacher Interface is designed to make your job easier – and more enjoyable! This section of the Acellus Educator's Handbook is designed to help you get started and to be a resource to you.

The first step is to get set up with access to the Acellus system. This includes obtaining and personalizing a GoldKey Security Token and registering in the Acellus System. If you have a GoldKey and have received an email welcoming you as a Teacher to the Acellus System, please see the instructions in Chapter 1 – Technology Concerns, under the heading “The GoldKey Security System.” If you do not have a GoldKey, or if you do not have the email, please contact the Acellus Administrator at your school, or your Acellus Coordinator at our offices. When you have completed this process, please continue, here, where we will discuss the following:

Getting Ready for Class

- My Desk -- Your "Control Center"
- Review Curriculum
- Review the Acellus Library
- Set Student Goals
- Create Assignments
- Create Homework
- Set Calendar Events

Becoming Familiar with the Student Interface

Managing Classes

- Getting Students Started
- Placement Exams
- Attendance
- Determining the Need for Intervention
- Tools for Intervention
- Grading
- Student Profiles
- Troubleshooting -- Student Issues

Chapter 6: Building Classes

Once you have personalized your GoldKey and registered with Acellus, you will next see the screen called *My Desk*. Here you can access the administrative tools and resources for the Acellus System.

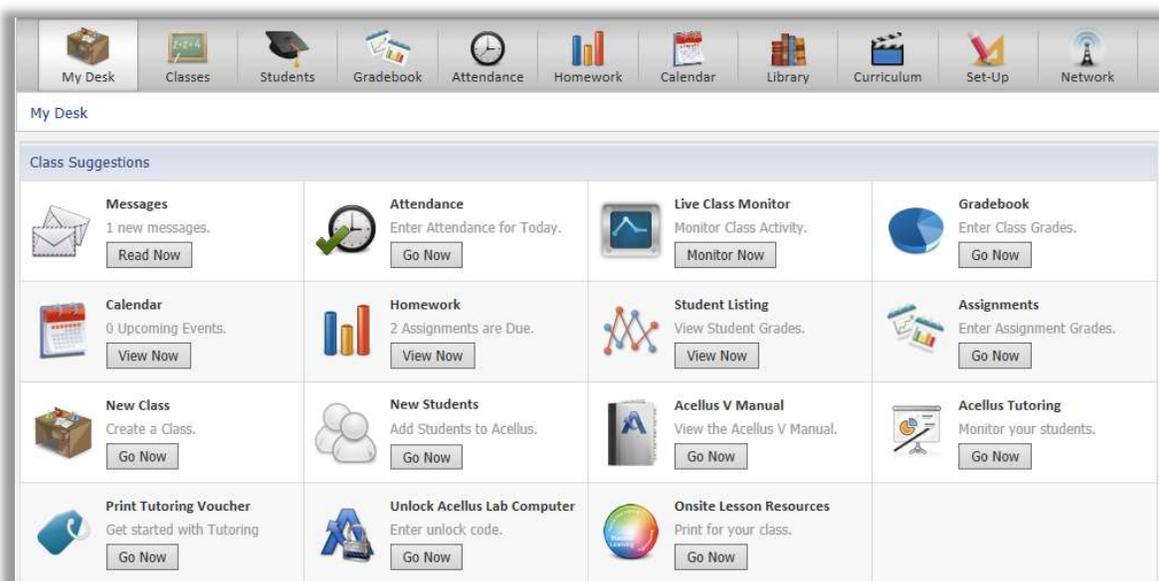


Figure 55: The options on the My Desk screen provide you with information about your class, such as new messages waiting and homework assignments that are due. It also provides quick links to often-used pages, such as the Live Class Monitor, the Attendance page, and the Gradebook.

In many schools, building the classes – adding students, creating classes, and putting the students into classes – is done by the School Acellus Administrator. However, in some schools you, the Acellus Teacher, will be given the task of adding your students to the system, and / or building your own classes.

In this chapter, we will discuss the steps you need to take to build classes:

Adding Students

Building the Classes

- Creating Classes
- Adding Students To Classes
- Printing Student Sign-In Cards

Adding Students

To add students, select *Set-Up* and then select the “plus” sign to the right of the *Students* column heading (see Figure 56). Using the *New Student* screen (Figure 57) you can enter students one at a time. The Acellus ID and Password will be added automatically when you select the *Submit* button.

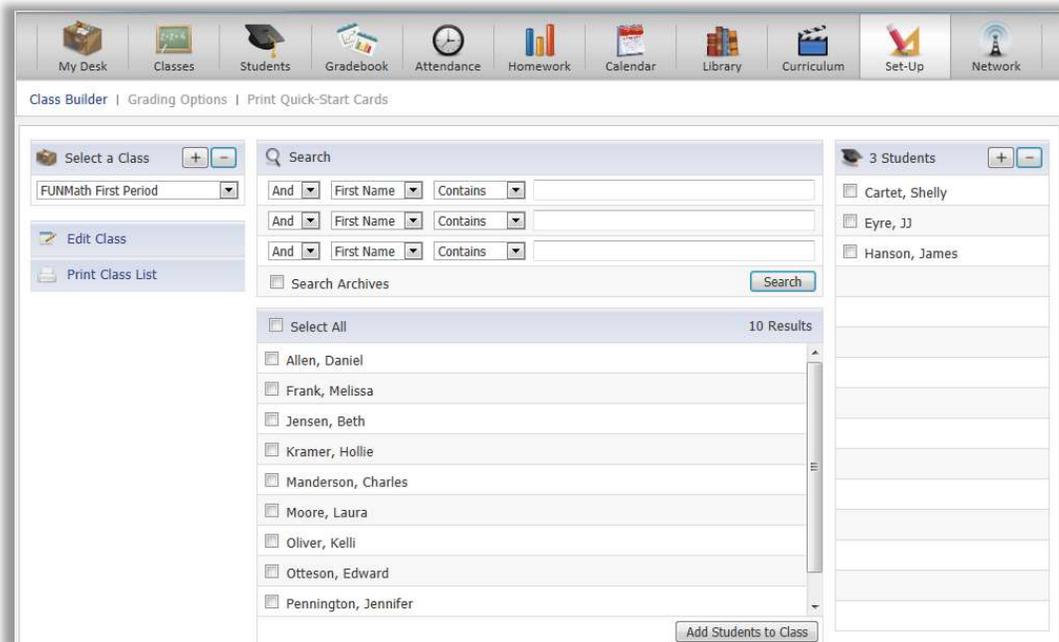


Figure 56: To add a student, on the Set-up screen, select the “plus” sign to the right of the Students column heading (on the right side of this screen).

Alternatively, select *Import Students* on the blue menu bar to add many students at one time (Figure 57).

To import an existing student list into Acellus, download the “.xls” Template file and import it into your spreadsheet program. This file provides a template which includes fields for the Acellus database. When you have loaded the template with your data, save it and use the *Import Selection* area (see Figure 58) to upload the data into Acellus.

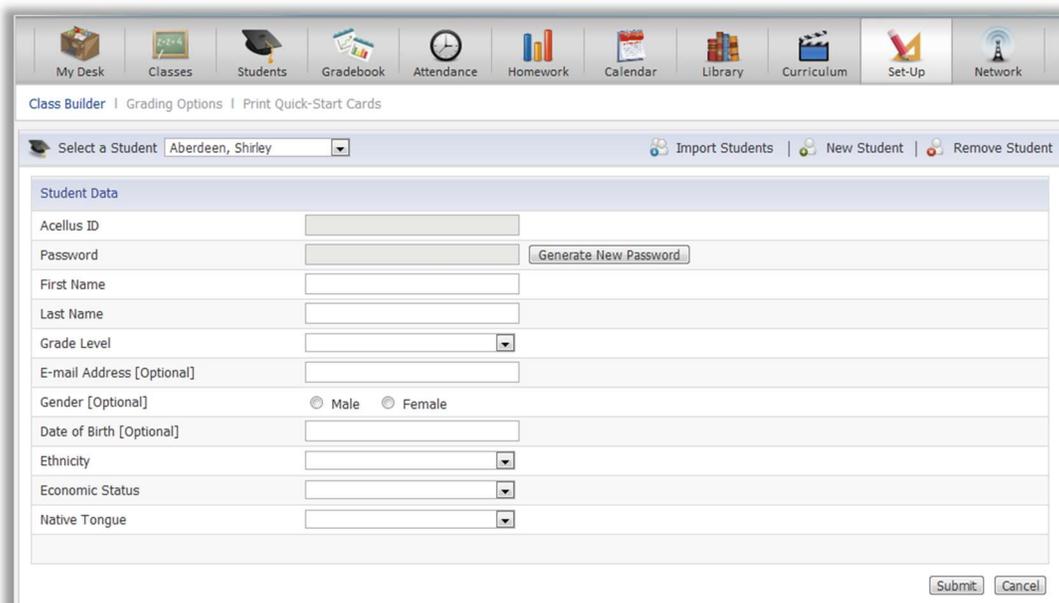


Figure 57: Use the New Student screen to add students one at a time.



Figure 58: The Import Students option speeds up the process of adding students.

Acellus automatically generates Acellus IDs and passwords, which can be printed on *Sign-in Cards* for distribution to students. To print out *Sign-in Cards* containing each student's *Acellus ID* and *Password*, go to *Students* → *Print Sign-In Cards*. See *Print Sign-In Cards*, later in this section, for instructions.

Building Classes

With students in the system, you are ready to build your classes.

Create a Class

To create a new class, follow these steps:

1. To access the New Class screen, do one of the following:
 - i. Go to *My Desk* → *New Class*.
 - ii. Select the *Set-up* button on the menu bar → select the “plus” sign to the right of *Select a Class*.
2. Fill out the Class Info form (see Figure 59).
 - i. Notice that one of the options in the *Acellus Course* pull-down is “none.” The Acellus System can be used to manage classes that do not use the Acellus Courses.
Be sure to set an Acellus Course for classes that will use Acellus. If you do not set the course, the program will not respond when the students select this class from their Class List.
 - ii. Set a Class Name. This is the name that you, your students, and your administrators will see for the class, so this name should be descriptive and unique.
 - iii. The Subject Number is optional and is provided for schools such as colleges that assign each course a number indicating the subject matter.
 - iv. Select the appropriate Grade Level.
 - v. Be sure to select the correct Teacher for the class – and notice that you can select additional Teachers using the checkboxes in the teacher list on the right. The main Teacher as well as the additional Teachers will have access to the records for this class.
 - vi. Setting the Room for the class is optional.
 - vii. Use the pull-down tool to set the Grading Scale to one of the three default options or to your current Custom Grading Scale.

Figure 59: Set up a new class using the New Class screen. For classes that will not use an Acellus Course, be sure to indicate so with "none" in the Acellus Course pull down.

- viii. You can set the "Class Goal" to *Course Completion Date*, or to *Weekly Goal* with the number of steps to be completed each week. Either way, you need to set both the *Class Goal* type and a default value for it. You can later adjust the value for each student, as needed.
- ix. Select the appropriate School Year.
- x. Notice that you can set the "Credit Hours" for this course.
- xi. By default, Acellus requires students to answer three problems correctly in a row before moving them to the next lesson. In addition, Acellus responds to three wrong answers in a lesson by setting the student back to repeat the lesson, or, if that has already been done, to repeat the previous lesson. The *Problem Count* settings on the New Class form allow you to adjust the number of correct answers required in a row before a student can move forward, and the number of wrong answers that can be entered before Acellus sets the student back.
- xii. The Video Controls are set to "off" by default. However, this setting allows you to turn student video controls on or off for this class.
- xiii. Attendance can be kept by Acellus based on the "Days Worked" or on "Class Time." If the former, students are counted as present no matter what time of day they work on Acellus. If the latter, you will be asked to enter the *Begin* and *End Times*, to indicate whether Acellus should mark students absent and/or tardy, and how many minutes after class begins the students can begin working on Acellus before they will be considered tardy.
 - a. If you leave *Don't Mark Absent* and *Don't Mark Tardy* selected, the automatic attendance feature is essentially turned off. This allows the teacher to take attendance manually with the Acellus Attendance tool.

Figure 60: Select a class to see and edit the *Lowest Passing Score*. This field indicates the score students must achieve in order to pass exams. This field is set on a class-by-class basis.

- b. If you un-select *Don't Mark Absent* and *Don't Mark Tardy* and enter the Begin and End times and the Tardy Time, Acellus will keep track of who is present during class time, who is tardy, and who is absent.

Adjust Grading Categories and Weights

If it makes sense to do so, from within the *Set-Up* section, go to *Grading Options* → *Grading Categories / Weights* and adjust the *Composite Grading Categories and Weights*, and the *Acellus Automated Grade Weights* for the class you have just set up. Be sure to select the class you want to adjust.

Additionally, make sure that the *Lowest Passing Score* is set as you want it to be. This is the score that a student must achieve in order to pass an exam. On the *Grading Categories / Weights* screen, when you select a course, the *Lowest Passing Score* field becomes visible, and will be filled with the default passing score. Adjust the score as desired, and select *Submit*.

Delete Classes

If you need to delete a class, select the *Set-Up* button in the Menu Bar, then select the class you want to delete (in the pull-down on the left under *Select a Class*). Select the “minus” sign to the right of the *Select a Class* heading, and the class will be deleted.

Add Students to a Class

Next, you can get to the *Class Builder* page to add students in any of the following ways:

- On the Menu, select *Set-Up*
- From any page within the *Set-Up* section, select *Class Builder*
- From *My Desk*, select the *Go Now* button from the *New Student* section.

On the *Class Builder* screen, use the *Select a Class* pull-down to select the class you want to add the students to (in the upper right corner of the screen). The names of all of the students who are not in the class will appear in the search results in the middle-lower section of the screen.

To limit the search, use the search criteria fields in the center of the screen. Please note:

- You can select different limiters: “and”, “or”, “not”.
- You can choose from several different fields to search: First Name, Last Name, Grade Level, Period, Course, Class, Score, and Economic Status.

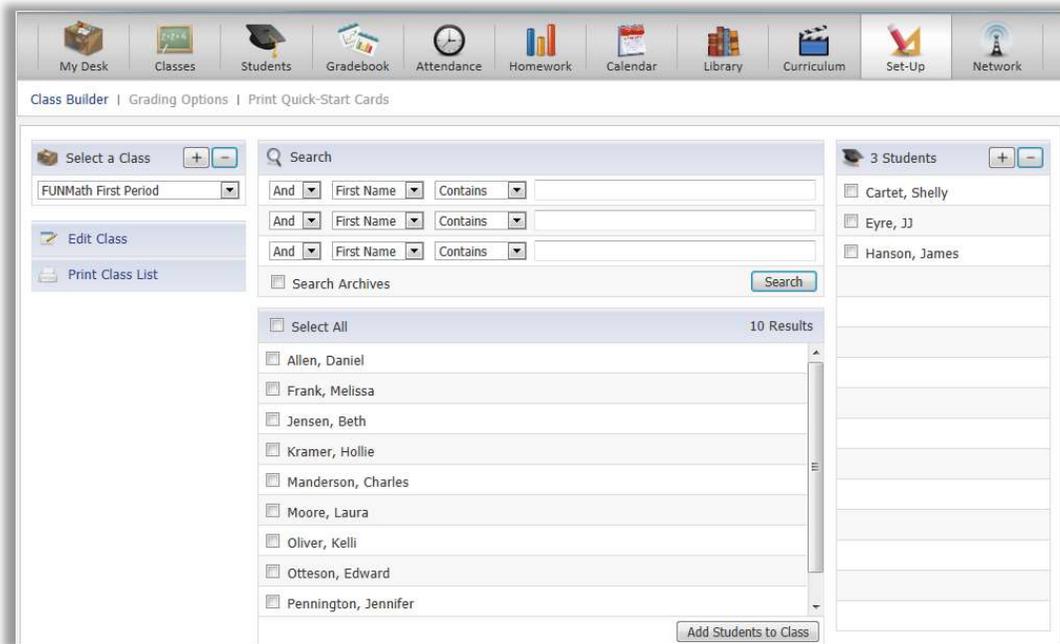


Figure 61: The powerful search feature allows you to add specific groups of students to a class all at once.

- You can choose from different search criteria:
 - Contains
 - Begins with
 - Available
 - Complete
 - Greater Than

Using these options in combination, you can find many specific groups of students that you might want to add to a single class. Here are some examples:

- Find all third grade students who are *available* during a specific class *period*.
- Find all students who are in grades *greater than* grade five.
- Find all students whose grade *contains* “8” but whose *Course* list does *not contain* “Algebra”.
- You can even search for students whose records have been archived, by selecting the checkbox labeled *Search Archives*, located just below the search criteria fields.

When you have found the specific student or group of students you want to add, check *Select All* or select individual students as desired and then select *Add Students to Class*. Repeat these steps as needed until you have all of the classes built to your liking.

Note: When you add a student to a course that you do not have a license for, a license is automatically ordered and added to your system, and your school will be invoiced.

Print Student Sign-In Cards

Acellus generates student IDs and passwords, which can be printed out on *Sign-In Cards* for distribution to the students. To print out *Sign-In Cards* containing each student's Acellus ID and Password, go to *Students*

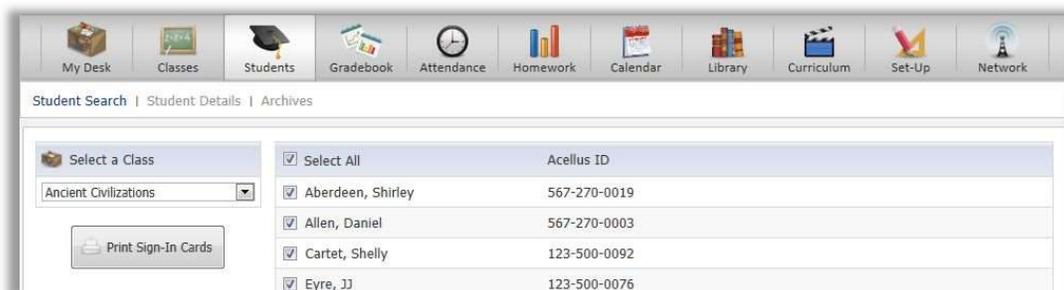


Figure 62: From the Student Search screen, Select Print Sign-In Cards (on the left). On the Print Sign-In Cards screen that follows (shown here), you can select a class, then select the students you want Sign-In Cards for. Select Print Sign-In Cards to print a student's Acellus ID and Password. The Sign-In cards will appear, ready to print.

and select *Print Sign-In Cards*. This will bring up the *Print Sign-In Cards* page (see Figure 62). Select the students you want to print cards for, then select *Print Sign-In Cards*. The cards will be displayed and can be printed using your computer's normal functions.

Chapter 7: Getting Ready for Class

In this chapter we will discuss the multiple tools and resources Acellus provides to help you as you create lesson plans for your classes:

My Desk -- Your "Control Center"

The Acellus Curriculum

The Acellus Library

Set Student Goals

Review, Create, and Edit Student Assignments

Student Homework

Calendar Events

Print Sign-In Cards

My Desk – Your “Control Center”

When you sign in as a Teacher, the first thing you'll see is the *My Desk* screen. If you have just built your classes, you are probably at least somewhat familiar with this screen. If not, please take a few moments to look at it and see what it can do for you.

My Desk helps you know where you need to go within the Acellus System. It does this by giving you a flag when you have any of the following:

1. New messages from students
2. Upcoming events
3. Homework assignments due

This screen also provides handy links to screens like the *Attendance* screen, the *Live Class Monitor*, the *Acellus Handbook* (this document), etc.

Acellus Curriculum

To access the Acellus curriculum lists, select *Curriculum* on the menu bar. You will be taken to the *Acellus Courseware Development System* (ACDS), where you may access the curriculum for each of the available

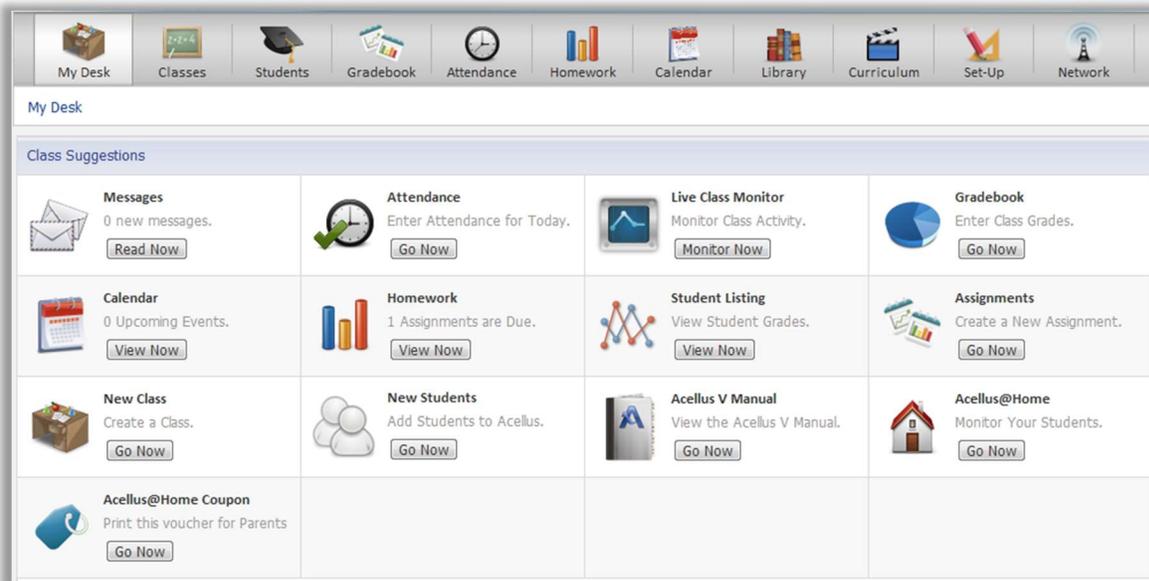


Figure 63: My Desk is like a control center, giving you critical messages about how your students are doing, whether there are upcoming events on the calendar and new messages from students, etc.

Acellus Courses, as well as Courses currently being developed. (Be sure that your GoldKey is plugged in. You will be asked for your GoldKey PIN.

Note: If you are told you do not have authorization to access this page your network firewall may need to be adjusted to allow access to courseware.acellus.com (no “www”). Your Network Administrator should be able to help you with this.

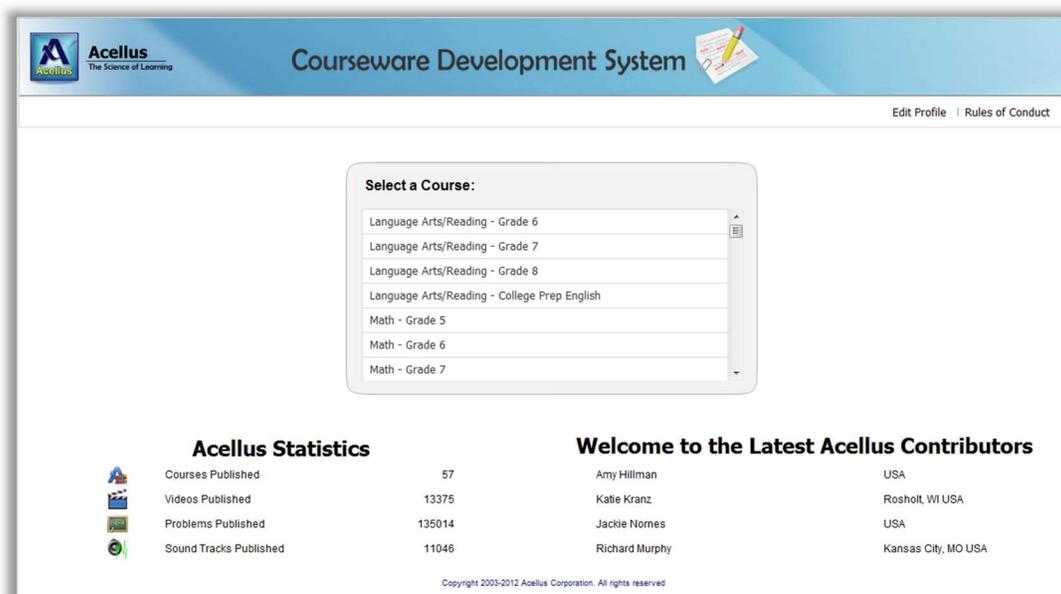


Figure 64: The Acellus Courseware Development System (ACDS) allows you to view the Acellus Curriculum in detail, and, if you wish, to participate in the National Workgroups that are developing the Acellus Courseware.

Step	Function Type	Curriculum Concept	Available Resources
29	Video	Adding 0	Video A, Video B, Notebook
30	Problem	Adding 0	Problems 1-10, Notebook
31	Drill	Math Fact Drill - Adding 0s	Problems 1-25
32	Video	Order Property for Addition	Video A, Video B, Notebook
33	Problem	Order Property for Addition	Problems 1-10, Notebook
34	Drill	Math Fact Drill	Problems 0
35	Video	Use Addition to Make Numbers	Video A, Video B, Notebook
36	Problem	Use Addition to Make Numbers	Problems 1-10, Notebook
37	Drill	Math Fact Drill	Problems 0
38	Video	Vertical Addition Sentences	Video A, Video B, Notebook
39	Problem	Vertical Addition Sentences	Problems 1-10, Notebook
40	Drill	Math Fact Drill	Problems 0
41	Review	Unit 2 Review	14 Random Problems

Figure 65: The Syllabus Viewer displays each step of the course. Related steps share common words in their IDs. Select a step to see the details of the step without scrolling.

From the opening page of the ACDS, you can select a course and see a list of each of the steps included in the course.

In Acellus, each course is organized into a series of Lessons. Lessons are comprised of Videos, Problems, Drills and/or Books, as well as Reviews and Exams, each of which is referred to as a “Step.” Steps that belong to the same lesson often share words in their IDs, as shown in Figure 65, above.

In the *Courseware Development System*, you can view all of the problems and videos that are available for each lesson. To do this, do the following:

1. Select the course you want to view.
2. Select the *Problems*, *Videos*, or *Notebook button for the step you want to review*.

The *Courseware Development System* is actively being used to create courses, so you will see courses that have been published as well as courses that have not. On the left side of the *Problems* area, you will see a pull-down list that defaults to *Published*, which indicates that only problems that have been published are shown. Pull down the list and change it see problems that have not yet been released for use in the course, or to see all problems.

For more information, see the *Acellus Courseware Development* section of this handbook.

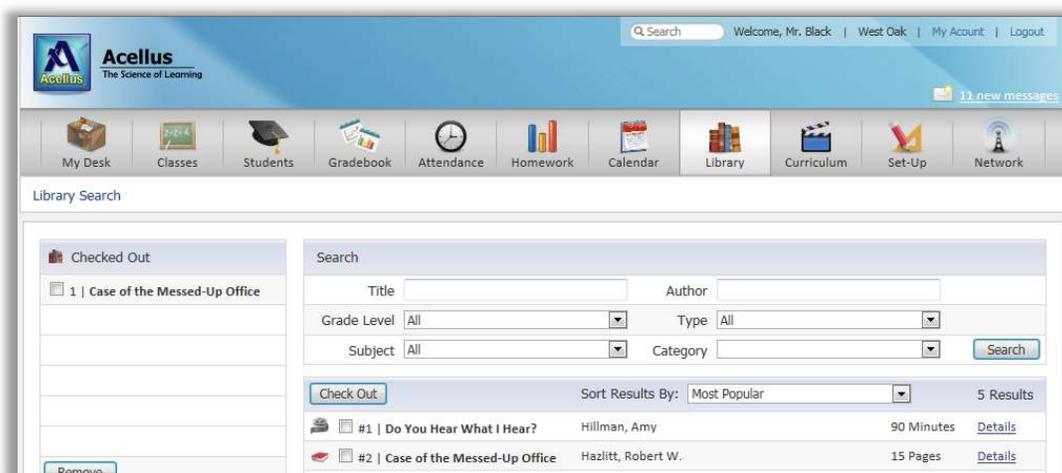


Figure 66: The Acellus Library provides extra educational material to augment your classes or help students with specific needs. Check out items to list them in the Checked Out list – making them easier for your class to find.

Review the Acellus Library



You can access the Acellus Library by selecting the *Library* button on the menu bar (see Figure 66).

The *Acellus Library* offers additional online educational material, such as memorization songs and science labs. Teachers can extend their lessons by assigning media from the library as homework. Students are also allowed to browse the Acellus library for information almost like an educational version of YouTube.

Additionally, students can “check out” library materials or you can check them out for all of the students in your class. Checked out items appear in the “Checked Out” list, both in the Teacher Interface and in the Student Interface (see Figure 66), eliminating wasted time searching for them. You can search for items in the library by title, author, grade level, type (video, book, all), subject, or category (labs, memorization songs, first aid, all). Select an item in the library to view it.

Set Student Goals



Student Goals can be either of two types – they can be based on an overall course completion date, or on the number of course steps students must complete each week. The person who sets up the classes chooses which type of goals each class will have, to begin with. However, you can change this as needed, by going to *Set-up* → *Select a Class* → *Edit Class* (see Figure 59 in *Chapter 6: Building Classes*).

Whichever goal type your class is set to use, you can adjust the actual goal for individual students as needed by selecting *Classes* → *Class Details* → *Goals* (see Figure 67). If the student *goal type* for this

Student Name	Acellus Course	Weekly Goal
Freisky, Michael	Social Studies - Ancient Civilizations	5
Guilford, Shannon	Social Studies - Ancient Civilizations	5
Hanson, James	Social Studies - Ancient Civilizations	5
Jensen, Beth	Social Studies - Ancient Civilizations	
Kramer, Hollie	Social Studies - Ancient Civilizations	5
Mae, Fanny	Social Studies - Ancient Civilizations	5
Manderson, Charles	Social Studies - Ancient Civilizations	5
Moore, Laura	Social Studies - Ancient Civilizations	5
Oliver, Kelli	Social Studies - Ancient Civilizations	5
Otteson, Edward	Social Studies - Ancient Civilizations	5
Pennington, Jennifer	Social Studies - Ancient Civilizations	5
Raulerson, Fred	Social Studies - Ancient Civilizations	5

Figure 67: A Class goal may be an overall completion date, or a weekly number of steps to be completed. You can reset either to meet individual student needs.

class is a course completion date, you will see a column on the right titled *Finish Goal*, and the fields in the column will contain dates. If the student *goal type* for this class has been set as a number of steps to be completed each week, that column will be titled *Weekly Goal*, and the numbers in these fields will indicate how many steps the students should complete each week.

Review, Edit, and Create Assignments

The Acellus System will automatically take students through any Acellus course, and will report their progress, scores, and grades in the *Gradebook* (see Figure 68).

You can create assignments to supplement your students' Acellus work, or for your non-Acellus classes. This means that you can do your grading for both Acellus and non-Acellus classes in the Acellus system. To create an assignment, open *My Desk* and select the *Create a new Assignment* button, or select *Gradebook* → *Assignments* → *New Assignment*. The screen pictured in Figure 69 will appear. Do the following:

- Step 1: Make sure the correct class is selected.
- Step 2: Give the assignment a name.
- Step 3: Set the *Assignment Type*. The *Assignment Type* pull-down will display all of the grading categories that were created on the *Supplemental Grade Weights* page.
- Step 4: Use the *Start Date* date picker to set the date you want the assignment to be given to students.
- Step 5: Use the *Due Date* date picker to set the date you want the assignment to be due.
- Step 6: Select *Submit*.

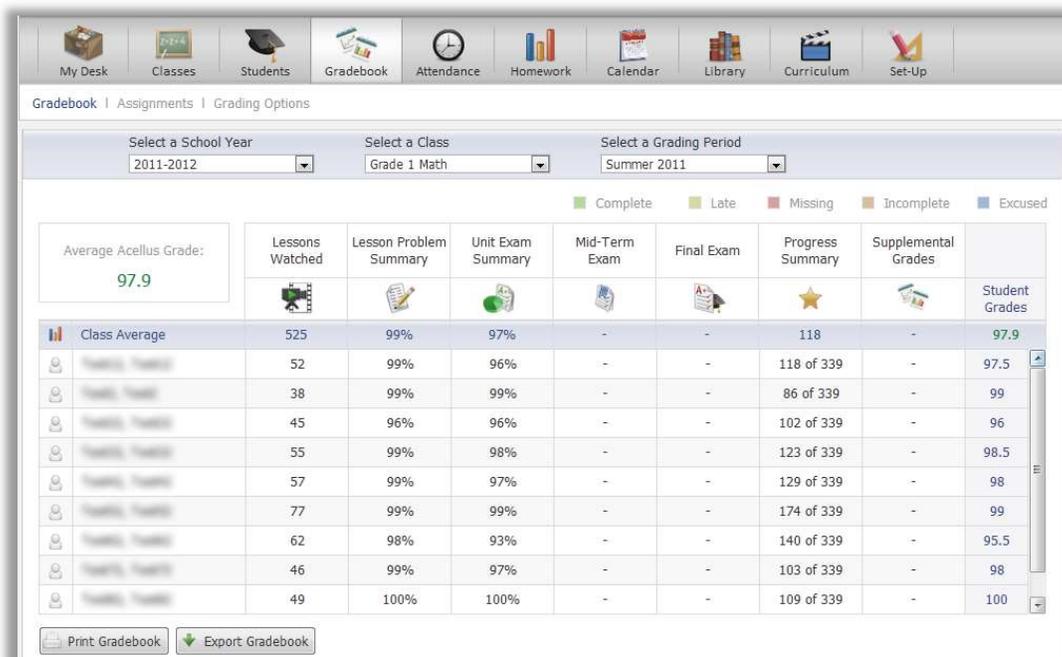


Figure 68: The Gradebook shows a summary of all work done and a grade for each student.

If you want to change something about the assignment, you can select *Edit Assignment* from the *Assignments* page.

Whenever it makes sense to do so – when students turn in assignments, or when you have spoken with them and want to make a record of your discussion – you can return to the *Assignments* page and enter grades or comments, or set the status of each student’s assignment (see Figure 70).

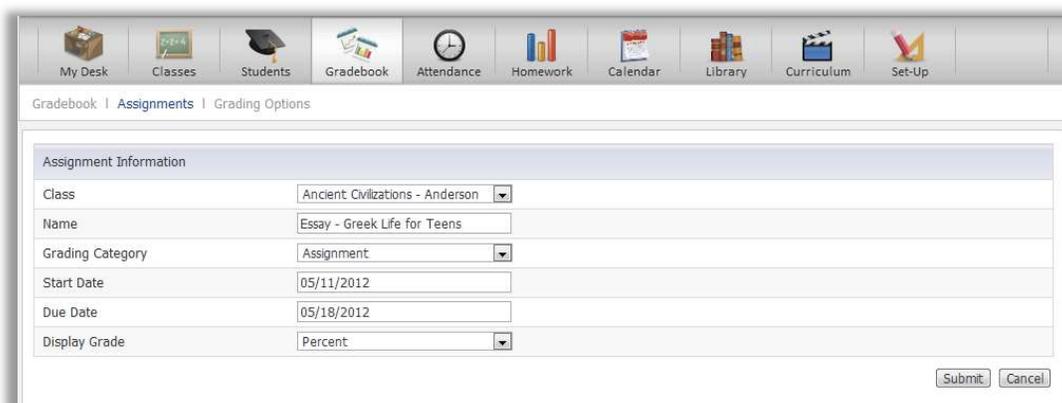


Figure 69: Insert new assignments as desired.

The screenshot shows the Acellus Gradebook interface. At the top, there is a navigation bar with icons for My Desk, Classes, Students, Gradebook, Attendance, Homework, Calendar, Library, Curriculum, Set-Up, and Network. Below this, the page title is 'Gradebook | Assignments | Grading Options'. There are three dropdown menus: 'Select a Class' (Ancient Civilizations - Ander), 'Select a Grading Period' (All Work), and 'Select an Assignment' (Essay - The New World). Below these are buttons for 'Edit Assignment' and 'New Assignment'. The main content area shows assignment details: Title: Essay - The New World, Due: 05/08/2012, Grading Scale: Out of 100, Category: Assignment, and Average Grade: 0. Below this is a table with columns for Student Name, Grade, Status [Optional], and Comments [Optional]. The table lists 10 students with their respective grades and status (e.g., Complete, Late). A 'Delete Assignment' button is at the bottom left, and a 'Submit' button is at the bottom right.

Student Name	Grade	Status [Optional]	Comments [Optional]
Aberdeen, Shirley	A	Complete	
Allen, Daniel	A-	Complete	
Cardell, Ann		Late	
Cartet, Shelly	B	Complete	
Carvey, Susan	A	Complete	Dramatic improvement here!
Eyre, JJ	B+	Complete	
Frank, Melissa	A	Complete	
Freisky, Michael	A-	Complete	
Guilford, Shannon	B-	Complete	
Hanson, James	A	Complete	

Figure 70: At whatever point it makes sense you can insert grades, set status, and add comments for Supplemental Assignments.

To view a different assignment, select it using the *Select an Assignment* pull-down on the right side of the page. Be sure that you are looking in the correct *Grading Period*. Assignments only show within the *Grading Period* they belong to.

You can also select a different class to see the assignments you have made there.

Create Homework



Homework is a special type of Assignment. Homework Assignments are displayed to the students they are assigned to in the Student Interface, so you can set homework assignments and announce them in class, or instruct students to check their homework assignments in the Acellus System from home.

To create a homework assignment, go to *My Desk* → *Homework* → *New Homework* and do the following:

- Step 1: Select the class you want to assign homework to.
- Step 2: Select the *Homework Type*. The *Homework Type* pull-down will display “Homework” or “Acellus Homework” – obviously indicating whether this homework uses content from an Acellus Course. If this is Acellus Homework, the course will be displayed.
- Step 3: If this is Acellus Homework, select the concept this assignment relates to.
- Step 4: Give the new homework assignment a *Title*.
- Step 5: Select *Start Date* and use the date picker that appears to set the date you want the homework assignment to be given to students.

Figure 71: Homework can be assigned to individual students, to small groups, or to the entire class.

- Step 6: Select *Due Date* and use the date picker that appears to set the date you want the homework assignment to be due.
- Step 7: Enter the number of problems you want the student(s) to do in the *Problem Count* field.
- Step 8: Enter your instructions for the homework assignment.
- Step 9: Select the students you want to assign this homework to.
- Step 10: Select *Submit*.

Figure 72: On the Students screen, select *Print Sign-In Cards* (on the left).

Set Calendar Events



The *Calendar* can include events for the entire school, but they can also include district events and class events, if desired. You can put important class events on the calendar – from exam dates to field trips.

Teachers, students, and Administrators, can view the *Calendar*, keeping everyone informed of what is going on. You can also limit events so that students won't see them, if you wish.

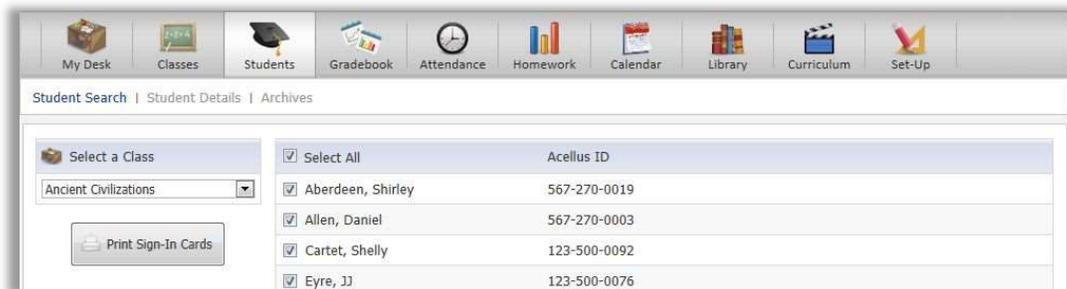


Figure 73: Choose Select All or select specific student(s), then select Print Sign-In Cards.

Print Sign-In Cards

Acellus generates student IDs and passwords, which can be printed out on *Sign-In Cards* for distribution to the students. To print out *Sign-In Cards* containing each student's Acellus ID and Password, follow these instructions:

1. Go to *Students* (see Figure 73).
2. Select *Print Sign-In Cards*.
3. Select the class for which you want to print the *Sign-In Cards*.
4. Select the student(s) you want to print cards for by marking the checkbox beside their name(s), or choose *Select All*.
5. Select *Print Sign-In Cards* (see Figure 74).



Figure 74: The Sign-In Cards that you requested will appear as if on one long page. However, they will print out, one-to-a-page, so that you can pass them out to students.

You will next see the first of the *Sign-In Cards* that is to be printed. Although all of the *Sign-In Cards* that you requested will appear as if on one very long page, they will print out one-to-a-page so that you can pass them out to the students.

Chapter 8: Becoming Familiar with the Student Interface

The Acellus Student Interface can be accessed through any of the major browsers, or through the Acellus App. Either way, students enter their Acellus ID and password to easily sign in. The Acellus App can be installed on Windows, Mac, iPad, iPhone, and Android phones and tablets. For more information, please refer to *Technical Specifications* in *Chapter 1: Technology Concerns*.

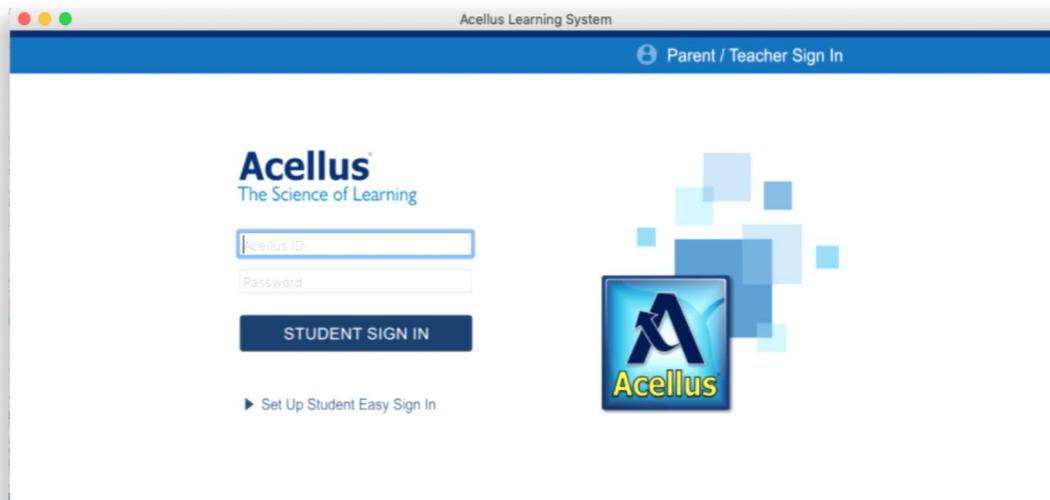


Figure 75: Students can sign into Acellus from any location that has internet access by going to acellus.com. Alternatively, students can install the Acellus App, allowing them to quickly and

The Student Experience

After signing in, students see the Student Dashboard (see Figure 76) which, by default, is open to the student's list of classes. They select a class from this list to be taken to their current position in the course.

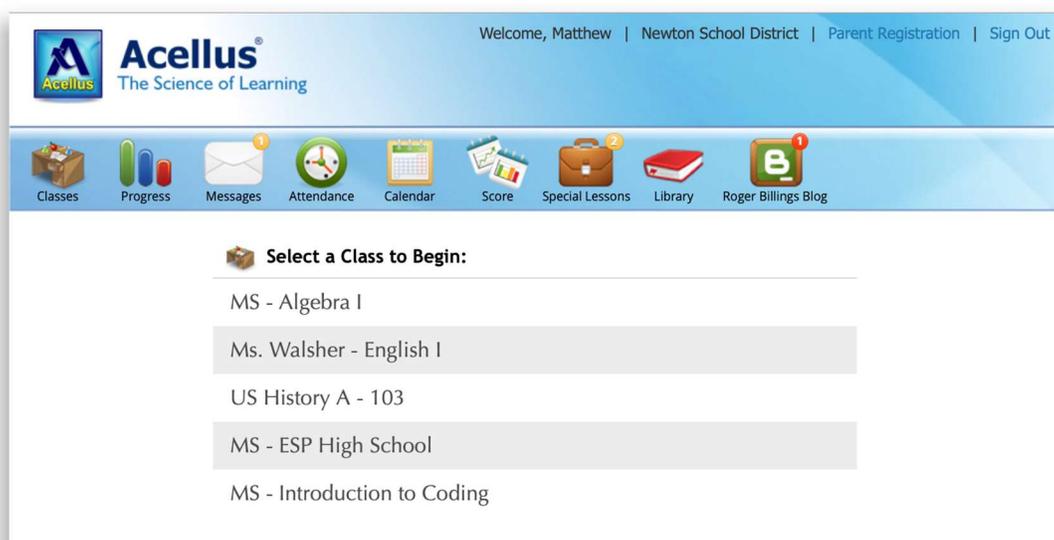


Figure 76: The Student Dashboard lists the classes that students are currently enrolled in. Students are also given multiple menu options that allow them to track their progress and scores in Acellus.

Videos

Acellus delivers short video lessons taught by some of our nation's greatest teachers. Each concept taught in Acellus is presented in a separate video that is followed up with problems to test the students' understanding of that concept. With every lesson focused on the instruction and mastery of one single concept, Acellus can easily identify the concepts a student doesn't understand. This also reduces the length of each lecture, and results in a higher level of student engagement.

Save Video Position Feature

The "Save Video Position" feature lets students stop in the middle of a video lesson and then resume the video at the same point the next time they log in. Sometimes in Acellus the length of a video lesson is longer than the time students have available to work, so they log out while right in the middle of a video. In those cases, when the student comes back later, instead of making the students watch the entire video, repeating the part they have already seen, Acellus automatically keeps track of how much of a video a student has watched when they exit a course and positions them back to that same spot when they return.

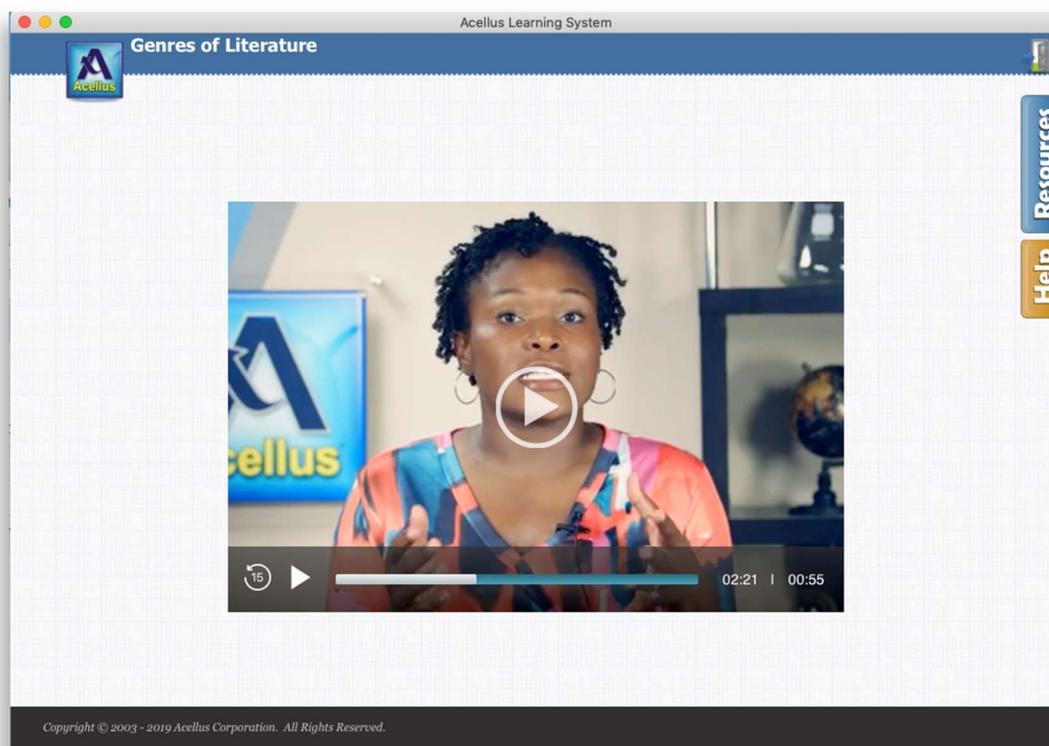


Figure 77: When students watch lessons in the Acellus Student Interface they have the ability to Skip Back 15 seconds at a time to repeat important concepts. When students sign out while in the middle of the video, Acellus remembers their position and starts the video right where they left off, when they return.

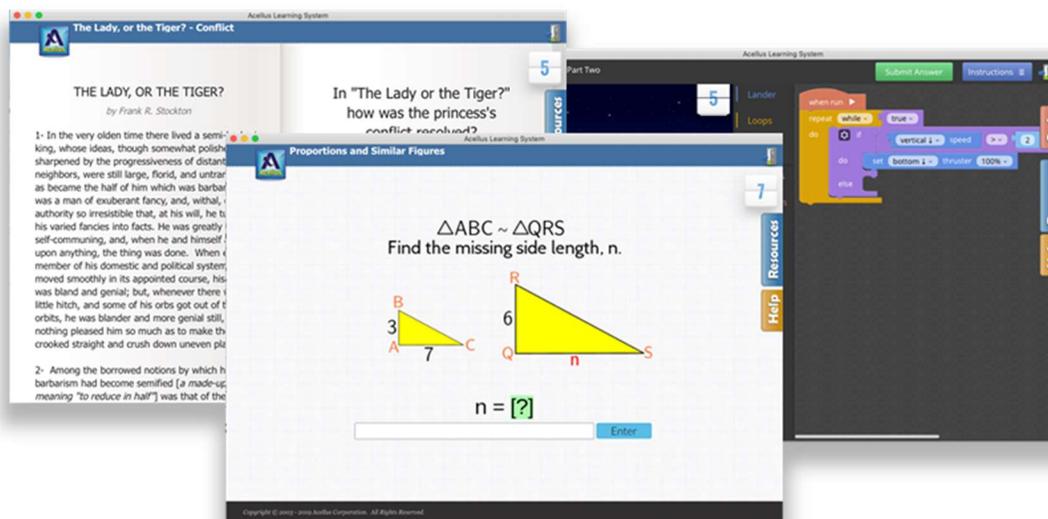


Figure 78: Acellus problems are created in many different styles and templates, so that a very wide variety of subjects can effectively be taught through the Acellus system. For more information about Acellus Problem Development see Section IV: Acellus Courseware Development System.

Video Skip Back Feature

Students also have the option to rewind their video 15 seconds at any point in the lesson, to pick up small parts they want to see again. The rewind button is located in the lower left corner of the video window and allows them to re-watch the previous 15 seconds of the video. They can click the button multiple times to rewind as far back as they need to go.

“Practice Problems” to Assess Mastery

After the video lesson, which presents one single concept, practice problems are given to assess students' understanding of that concept. Using Prism Diagnostics and Customized Personal Instruction, Acellus assesses areas of student weakness and gives more help and practice in these areas – further customizing the learning process and filling in holes in students' understanding for a strong learning foundation.

When students can demonstrate that they understand a concept by obtaining a score of 70% on the practice problems, they move on to the next lesson. In this way, students are able to move through the course at their own pace.

While working on the practice problems, if students struggle on a particular problem, they are given the opportunity to retry that problem for partial credit. Students are given half credit for any problem they answer correctly, after having missed it.

Note: Practice Problems are randomly selected from a large bank of problems that are created with parallel complexity and difficulty. This means that two students sitting next to each other who are doing the same lesson are each given a unique set of problems.

Instructive Problems

As students progress through their courses, they will sometimes encounter special problems called Instructive Problems. Instructive problems are created to help reinforce a student's understanding of a particular lesson prior to their encountering the Practice Problems.

Note: Instructive problems do not count toward the student's problem counter; shown in the top right corner of the screen.

Unlike Practice Problems, which are randomly selected for each student, Instructive Problems are presented to every student who takes the course, and in the order designated by the courseware development team. This allows Acellus to use Instructive Problems to build a student's awareness and understanding of the material prior to presenting them with the practice problems to assess mastery. (For more information about courseware development see *Section IV: Acellus Courseware Development System*.)

Help Tab

As students work through their courses they have access to the Help Tab on the right side of the screen (see Figure 79).

The screenshot shows the Acellus Learning System interface. The main window is titled "Proportions and Similar Figures" and contains a math problem. The problem states: $ABCD \sim QRST$. Below this, it asks to "Find the missing side length, m." The diagram shows two purple trapezoids. The larger trapezoid ABCD has side lengths AB = 12, BC = 12, CD = 12, and AD = 12. The smaller trapezoid QRST has side lengths QR = m, RS = 3, and ST = 3. Below the diagram, the text "m = [?]" is displayed, with a green box around the question mark. A text input field is located below this text, with an "Enter" button to its right. On the right side of the interface, there is a "Help" tab with a dark background and white text. Below the "Help" tab, there are four menu items: "Submit a Problem Fix" (with a wrench icon), "Textbook" (with a book icon), "Problem-Solving Help" (with a document icon), and "Lesson Videos" (with a film strip icon). At the bottom of the window, there is a copyright notice: "Copyright © 2003 - 2019 Acellus Corporation. All Rights Reserved."

Figure 79: The Help Tab often contains Problem-Problem-Solving Help. These short, focused videos show a sample problem, similar to the problem students are presented with, being worked out along with explanation.

The Help Tab is designed to provide resources to help students master course concepts by augmenting and enriching the instruction provided in the lesson video. By selecting the Help Tab students gain access to one or more of the following: the “Submit a Problem Fix” option, the Course Textbook, Problem-Solving Help, and all available Lesson Videos on the current topic. Of course, none of the Help Tab features are available during exams. Let’s begin with the Textbook.

Note: Students WILL NOT have access to the Help Tab during any exam. This includes the Pre-Test, the Unit Exams, the Mid-Term Exam, and the Final Exam.

Textbook

The Textbook (see Figure 80) contains written lessons that correspond with each video lesson in a course. Each Textbook lesson covers the same concept as the lesson video and is designed to be an additional instructional resource for students who prefer a textual form of instruction or support, who want to double-check their understanding, or who want to reinforce the concept in their minds. Some students follow along in the textbook while the video is playing, while others use the textbook to make sure they put everything they need into their notes.



The screenshot displays the Acellus Learning System interface. The main window is titled "What Is a Mineral?" and features a video player on the left showing a woman holding a mineral. The video player has a play button, a progress bar, and a timestamp of 05:46. To the right of the video is a "Help" sidebar with the title "What Is a Mineral?". The sidebar contains a "Main Concept" section with a key icon and the text: "A mineral is a solid inorganic substance with a crystal structure that occurs in nature." Below this is a paragraph: "The outermost rocky layer of the Earth is the crust. It is made of rocks, and rocks are made of minerals." This is followed by another paragraph: "Rocks and minerals are not the same. A rock is a solid and forms naturally, but it usually contains two or more types of minerals. To identify a mineral you must ask four questions." A bulleted list follows: "Is it non-living?", "Is it a solid?", "Is it formed in nature?", and "Does it have a crystal structure?". The sidebar concludes with a paragraph: "A mineral is made up of elements that are made up of atoms. An atom is the basic unit of matter. The atoms of a mineral are arranged in an orderly, repeating three-dimensional pattern called a crystal structure. Elements can be found on the periodic table." At the bottom of the sidebar is a small periodic table. The footer of the interface reads "Copyright © 2003 - 2019 Acellus Corporation. All Rights Reserved."

Figure 80: The Help Tab contains the Acellus Textbook. The Textbook provides a written form of instruction about the concept the student is working on. The textbook is not accessible during exams.

Although Acellus Courseware Developers are given a lot of flexibility for developing lecture notes so that each Textbook best fits the course it's developed for, there are specific textbook features that are kept consistent from course to course. These items include the Topic Title, the Main Concept, and the Hints:

- The topic Title matches the Title of the video.
- The Main Concept provides a quick sentence to help students quickly remember the lesson's primary point.
- The Hints vary widely at the discretion of the Courseware Developer, but are commonly used to reinforce important points from the lesson, or even to introduce interesting additional information that enriches the lesson and widens the students' perspective of the subject.

The screenshot shows the Acellus Learning System interface. The main content area displays the problem: $\triangle ABC \sim \triangle QRS$ and "Find the missing side length, n." Below this, two purple triangles are shown. Triangle ABC has side AB = 6 and side AC = 2. Triangle QRS has side QS = 5 and side RS = n. A green box with a question mark is next to "n =". Below the triangles is an input field with an "Enter" button. On the right side, there is a "Help" tab and a "Lesson Videos" menu with options for Video A, Video B, and Video C. The top of the interface shows the title "Proportions and Similar Figures" and the Acellus logo.

Figure 81: The Help Tab provides access to the Lesson Videos. At any time during the practice problems or reviews, students can choose to re-watch the lesson they were presented with (Video A), or select an alternate version of instruction on that concept (shows as Videos B-C, above).

For more information on the development process of the Acellus Textbook, see Section IV: Acellus Courseware Development System.

Lesson Videos

The Help Tab in the student Interface also includes the Lesson Videos option, which allows students to access all of the available Lesson Videos during the practice problems and reviews (see Figure 81). To

watch the original video lesson again, students select Video A. Acellus often provides additional videos about the same topic, taught from a different perspective, or with more in-depth descriptions and examples (Videos B-C in Figure 81). Students can watch as many of these as they want to while they are working on problems or on a review.

When the selected lesson video has ended, Acellus will take the student back to the practice problems, right where they left off.

Problems Solving Help

Depending on the course a student is enrolled in, the Help Tab in the Student Interface may also include “Problem-Solving Help,” which consists of short, focused videos designed to help students learn how to solve the problems that are specific to the current concept. In these videos, students see a sample problem being worked out with an audio explanation of what is being done and why. Through this feature, Acellus takes advantage of an optimal teaching moment – a

Note: Problem Solving Help Videos have been found to be a particularly helpful resource for students who are stuck on a problem and need a quick, focused review of how to solve them.

The screenshot shows the Acellus Learning System interface. The main content area is titled "Investigating Patterns and Nonlinear Functions" and contains the instruction "Type an equation for the following pattern." Below this is a table with the following data:

x	y
1	-1
2	6
3	25
4	62
5	123

To the right of the table is a partial equation: $y = [?] [] + []$. A "Help" button is located to the right of the equation. Below the equation is a text input field with an "Enter" button. The right sidebar is titled "Problem-Solving Help" and includes a "Back" button and a grid of video thumbnails for Mr. Rogers, Mr. Isaac, and Patrick Mara.

Figure 82: Problem-Solving Help videos provide examples of how the current problems are done, at the exact moment that the student needs them – and reaches for them, indicating their readiness to learn.

moment when students need the specific knowledge provided – and know they need it – and are open to receiving it, as evidenced by their seeking out the Problem Help videos.

Submit a Problem Fix

We live in an ever-changing world of moving geographic boundaries, new country names, cutting-edge scientific discoveries, and new teaching methods, all of which makes it very challenging – and necessary – to keep the nearly 300 Acellus courses up-to-date and relevant. In addition, Acellus Courses are constantly evaluated for which of their elements are effective in helping students learn and which are not, and are constantly revised and improved accordingly. All of this works because of a very dedicated Courseware Development Team that includes teachers from all over the United States. But another important source of help with this process is exceptional students who show advanced knowledge of the above and other topics, who report issues they run into as they are working on Acellus problems. In fact, these students have been so helpful that Acellus has incorporated a special feature into the Acellus Student Interface that makes the process of reporting these issues much easier and faster. The *Submit a Problem Fix* feature provides students with the ability to send feedback directly to Course Developers.

On the *Submit Problem Feedback* screen (see Figure 83), students can suggest correct answers, flag typos or out-of-date information, or even suggest that a problem is testing students on information that hasn't yet been taught.

These suggestions are collected in the Courseware Development System where Developers can evaluate the suggestions and change problems accordingly. If the Courseware Developers decide that a suggestion is relevant and helpful, they “approve” the suggestion, the student is given extra credit, and any answers that were marked incorrect because of the issue are updated.

Submit Problem Feedback:

-- Select an Issue --

Please describe your suggested fix.

Note: Your suggestion will be reviewed by the Course Development Team. If your suggestion is accepted - any incorrect answers due to this issue will be counted as correct. You will also receive a bonus score for finding and submitting this report.

Submit

Figure 83: When students Submit a Problem Fix they can choose the type of issue and describe their suggested fix.

Students who come forward with these suggestions show an extraordinary level of achievement and deserve to be awarded additional credit; for this reason, if their suggestion is “approved” they will also receive a bonus credit in their score for the class where they reported the issue.

Reviews and Exams

As students move through a course, they may be less than completely motivated to obtain the knowledge that is readily available for them in the Acellus System. However, each Acellus Course is divided into Units, each of which includes a Unit Review and Exam. When students know that an Exam is just ahead, many of them begin to realize that they need the knowledge they may have been skimming over. The unit review catches them at this critical learning moment – when they *want* to obtain the knowledge so that they can pass the exam.

The Review goes over each concept taught in the unit one more time, giving the student practice problems for each concept covered in the exam. While working problems in the review, students have access to the Help Tab, and therefore to the Textbook, the Problem Help videos, and the Lesson Videos. Reviews are “free.” No wrong answers in Reviews are counted against students’ grades. This enables them to really dig in and study each concept in an in-depth manner, or, if they feel they already know the concept, they can skip forward. A review is also presented before the Mid-Term Exam and before the Final Exam.

Acellus is a mastery-based learning system. This means that students are required to demonstrate mastery of each concept in order to progress through a course. They must do so by achieving a minimum score on the practice problems, right after they have been taught each concept. But at the end of each unit, students are again required to demonstrate mastery of all of the concepts taught in the unit by passing the Unit Exam. This demonstrates a higher level of mastery, because the Unit Exam is not given immediately after the concept was taught (with the possible exception of the last concept). The Mid-Term and Final Exams provide another, higher-level demonstration of mastery, testing the students on all of the concepts that preceded them. At each level, there is more knowledge that the students must have mastered in order to pass, and more time has elapsed since the students were taught the concepts.

While working on a Review, students have access to the Help Tab and all of the resources within it. However, while working on an Exam, students do not have access to any of these resources.

Exam Recovery Mode

When students are unable to pass an Exam, Acellus recognizes that they are in trouble, and steps in to help. In this situation, students usually understand some of the concepts on an exam, but have not mastered others. Because Acellus Exams test students’ understanding of specific concepts, it becomes readily apparent which concepts have not been mastered. It is obvious that students need to review this material further while at the same time they need just the right intervention to prevent them from becoming discouraged.

When students fail an exam, they are automatically placed in 'Exam Recovery Mode' – they are presented with the problems that they missed on the exam, including the wrong answers that they entered, and are given another chance to work the problems. If they are not able to solve the problem with another try, they are given supplemental video instruction on how to work that type of problem. After they complete the video instruction, they are given another opportunity to work the problem that was missed.

Once the students have re-worked all of the problems they missed, they are given another chance to take the entire Exam. Exam Recovery Mode relieves teachers from having to reposition each student to the lessons they missed during the exam.

Retake for Extra Credit

Exam Recovery Mode is not just for students who have failed an exam. There are many students who, after passing an exam, feel they have not done their best and would like another try, and many who understand that a missed problem on an exam indicates a hole in their knowledge – a hole that they would like an opportunity to fill in.

Acellus gives students this option. When students pass an Exam with a less-than-perfect score, they are given the opportunity to put themselves into "Exam Recovery Mode." At the end of the exam they are given a choice whether to 'Continue,' which moves them ahead in the course, leaving their

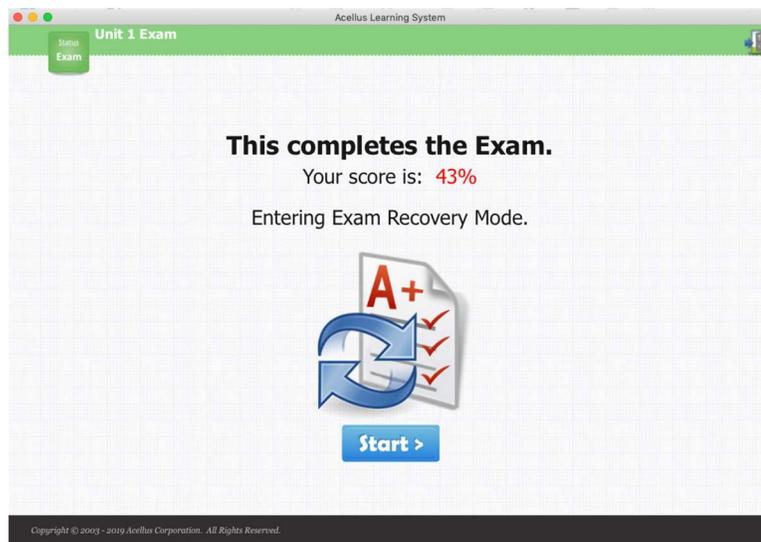


Figure 84: When students fail an exam, they are automatically put into Exam Recovery Mode, where they can review the material they missed and then retake the entire Exam.

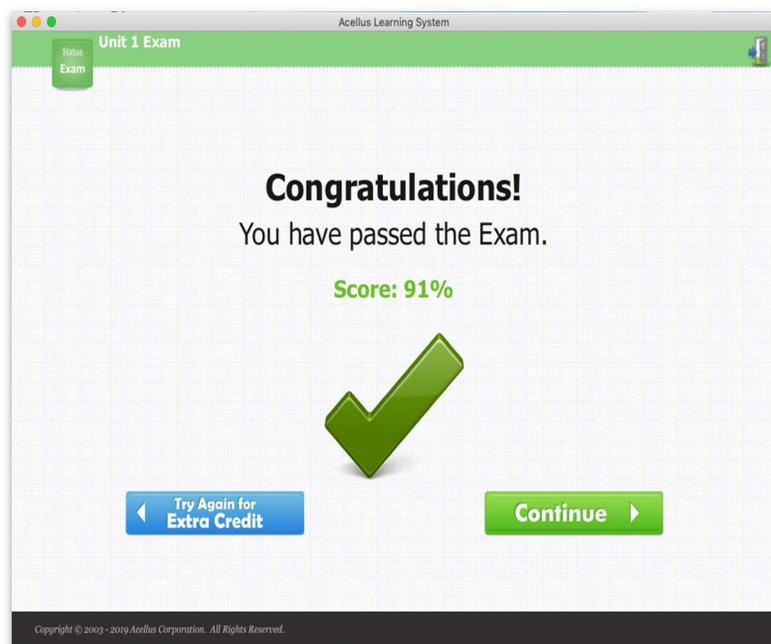


Figure 85: When students pass an exam they have the option to continue on in their course, or Try Again for Extra Credit.

grade as it is, or to choose 'Try Again for Extra Credit' (see Figure 85). If students choose to try again, they are shown the problems they missed on the Exam, including the answers they entered, and given additional instruction as needed. They are then given the Exam again in its entirety.

While on the surface this may seem like a giveaway – letting students try again and again for a better score – it looks a little different if we take a step back. Students who don't care about their scores will never take advantage of this option. At the same time, meticulous students who give special attention to their grades will seize the opportunity and work to raise their scores as high as they can. Interestingly, something like a "lower than desired" exam score can affect students in more ways than just lowering their overall grades. If students have a low exam score and they can't do anything about it, how likely are they to continue making the effort? With this perspective, the important issue becomes not just that students can improve their scores, but that students can feel like they are succeeding – because they are.

Besides the motivation of this approach, it is also scientifically proven that students learn better when they are shown what they did wrong, with the result being that errors in their understanding are corrected and difficult concepts are reinforced. By re-teaching material and then allowing students to try again, Acellus sparks their 'I can do it' attitude. We also find that giving students greater control over their learning by letting them choose when they are "finished" with an Exam increases their motivation, letting them work as long or as short a time as they want. If students are willing to do extra work, they deserve extra credit.

Grades aside, two important core outcomes educators are looking to address in teaching are student morale and academic achievement. When students review concepts and retake exams, we achieve both these objectives. Students feel like they are succeeding, and at the same time, they are increasing their knowledge of academic material.

Memorization

In most classes, there are things that students need to memorize. In general, the information that should be memorized is anything that is worth knowing that cannot be derived.

Though necessary, memorizing can be a dull and boring job. Acellus takes the drudgery out of memorization, using two methods: songs and drills.

Songs

The first memorization method in Acellus is the use of Memorization Songs. These

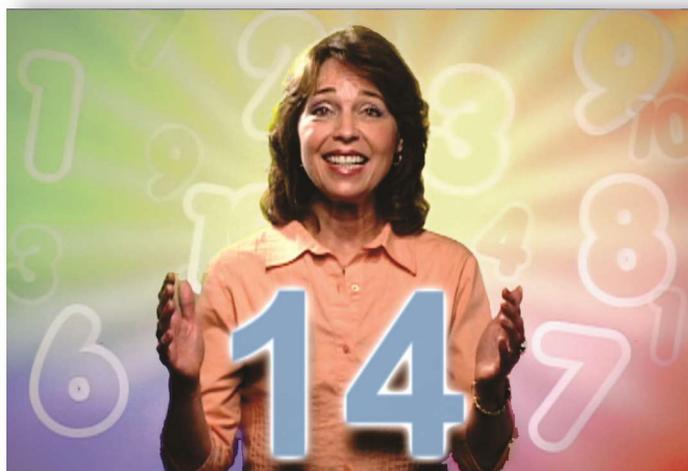


Figure 86: Setting facts to music helps make them stick in students' minds.

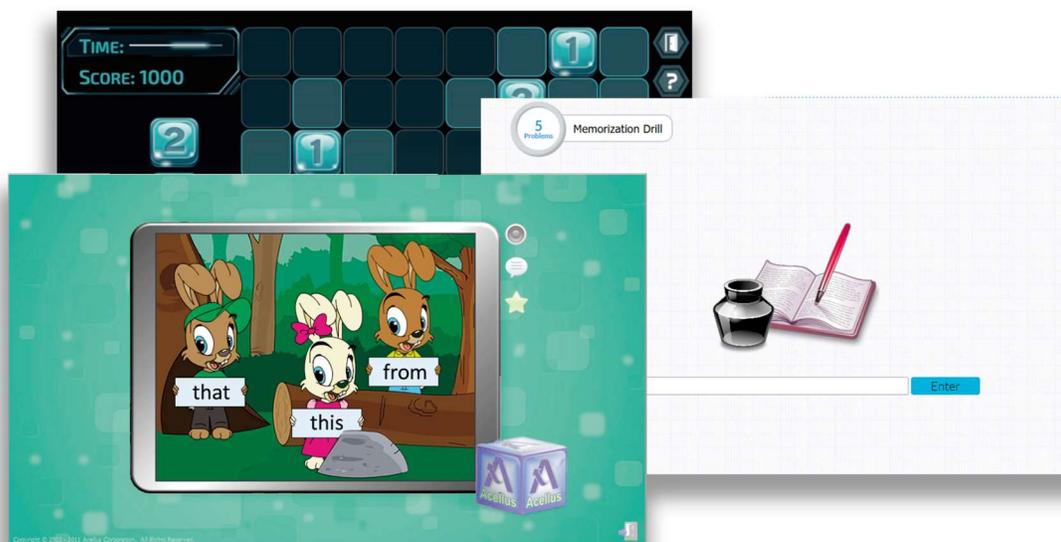


Figure 87: Types of Drills include Vocabulary Drills (shown at right), Grammar Drills, Fact Drills, Spelling Drills, Sight Word Drills (shown in front), Math Drills (shown in rear), and Math Fact Drills. Audio is often used in drills, as in the case of the Sight Words Drill, where students select the word they hear from among the moving rabbits, and in the Vocabulary Drill, where students type the word they hear – and spelling counts!

are videos that are designed to help students memorize by setting lists of information to music. Examples of these are the “Count to One Hundred” video (see Figure 86) and the “Polygon Song” video in Grade 3 Math. Some Memorization Videos use creative animation alone, and others feature a vivacious singer along with animation presenting the information in written form. Either way, these elements help make the video more interesting and help the students remember the information.

Drills

The second memorization method is the Acellus Drills. Drills require more active student participation than the Memorization Songs do. In Drills, students must enter or choose information that they have memorized. Students work on Drills for a specified amount of time. If they have not finished a Drill when the time is up, then the next time they encounter a Drill step, they must finish the incomplete Drill before moving on.

Drill types in Acellus include the following:

- Vocabulary Drills
- Grammar Drills
- Fact Drills
- Spelling Drills
- Sight Word Drills
- Math Drills
- Math Fact Drills

Completed Drills are automatically graded with a percentage grade. Drills are listed in the student’s record, each in its correct place in the course. The total number of right answers the student gave and the total number of problems completed are also shown.



Figure 88: The Progress Report helps motivate students by showing them how they are doing. They can see a list of their work for today, how close they are to meeting their current goal, how many steps they have left to meet their goal for today, and how far through the course they are.

Progress

The Acellus Progress tool (Figure 88) helps to motivate students by showing them how they are doing. Here students are able to see the topics that will be covered in their Acellus class for the day and their progress on the teacher-assigned goals for the week, as well as what their goal is, their current progress score, and their overall progress through the course.

Messaging

Students and teachers can interact with each other, whether at home or at school, via the Acellus Messaging system (see Figure 89). This allows students to seek help without interrupting at a bad time, and allows

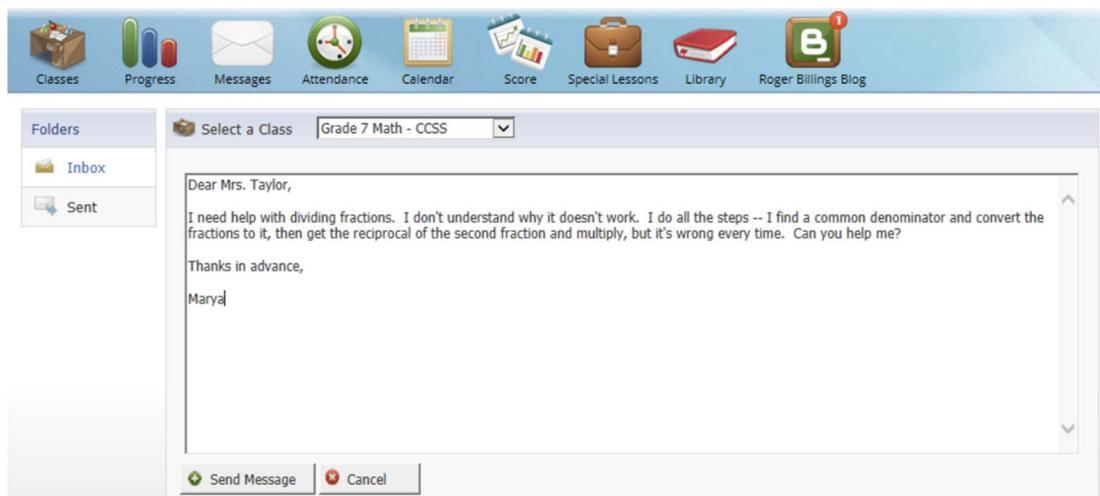


Figure 89: Students can send you a message when they need help, making it simpler for them to request help – and simpler for you to give it.

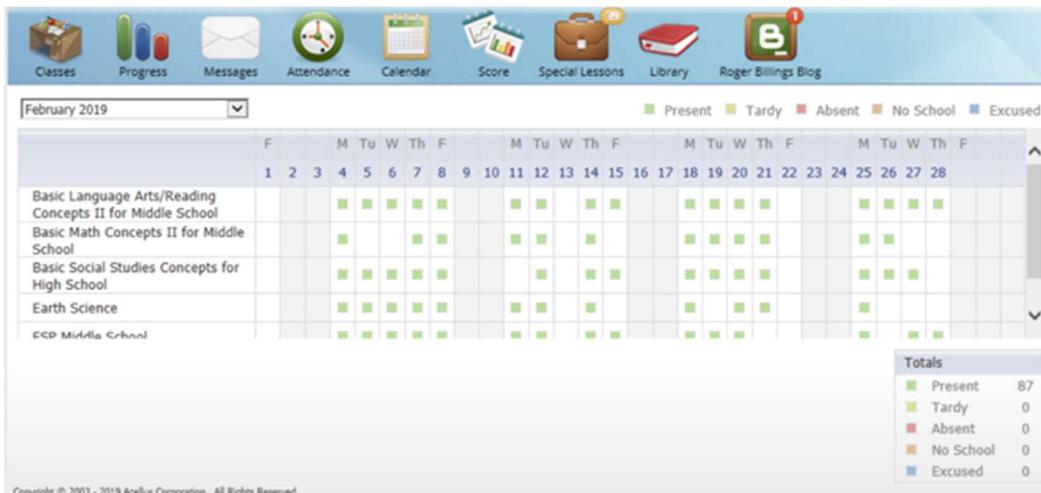


Figure 90: The students' attendance report is color coded to provide a quick and accurate visual representation – easier for students – easier for parents.

teachers to prioritize the needs of the students, and give help first where help is most needed. Students are not allowed to message each other, however, to minimize distraction.

Attendance

Acellus' built-in *Attendance* tool makes the roll call. The color coding makes assessment quick and easy, whether students are evaluating their own attendance for their classes or presenting the report to their parents. Acellus can mark students present, absent, or tardy. Attendance can also be marked with *No School* and *Excused*.

Calendar

School events are posted on the Acellus *Calendar* and are available to teachers and students over the Internet in their respective Acellus Interfaces. With the click of a button, students receive a list of school events for the month. They can click back to see previous months or forward to see future months. They



Figure 91: You can use the Calendar to make students aware of important upcoming events.

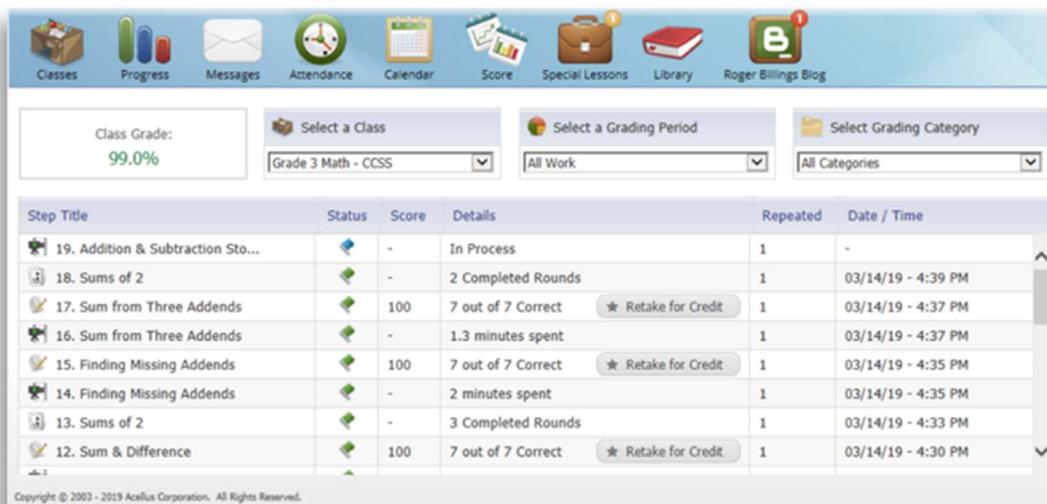


Figure 92: Students can keep track of their scores, giving them continuous feedback on where they need to improve.

can select an event to see more details such as any items they should bring to the event, or things they should do to prepare for it. To learn how to create calendar events and indicate whether or not students will be able to see them, see *Set Calendar Events* in *Chapter 7: Getting Ready for Class*.

Scores

Students can view their grades as well as their GPA at any time with the Acellus Score tool (see Figure 92). They can see how they are doing on achieving their goals, their current grade for each class, and comments their teachers have entered into the *Gradebook*. They can see grades from past grading periods, or select a specific grading category. They can share this information with their parents at any time.

Special Lessons

Some lessons are simply not best taught by a computer. As of this writing, a science lab, no matter how interesting and informative, is much more interesting and informative when students can actually do the experiments themselves, rather than watching them being done in a video. A computer cannot grade an essay. Grammar and spelling? Yes. Theme, symbolism, effectiveness...? Hardly. Special lessons are designed to provide teachers with pre-written lesson plans and student instructions/worksheets to facilitate the kinds of lessons that a computer just can't do.

Special Lessons are integrated into the courses so that they are assigned to the students as they progress through the course. When students have outstanding Special Lesson assignments, they see a small "bubble" on the briefcase icon at the top of their screen, containing the number of outstanding assignments they currently have (see Figure 93). Students select the briefcase icon to view their current Special Lesson assignments. When a new Special Lesson has been assigned, it is marked with a blue flag. Once the

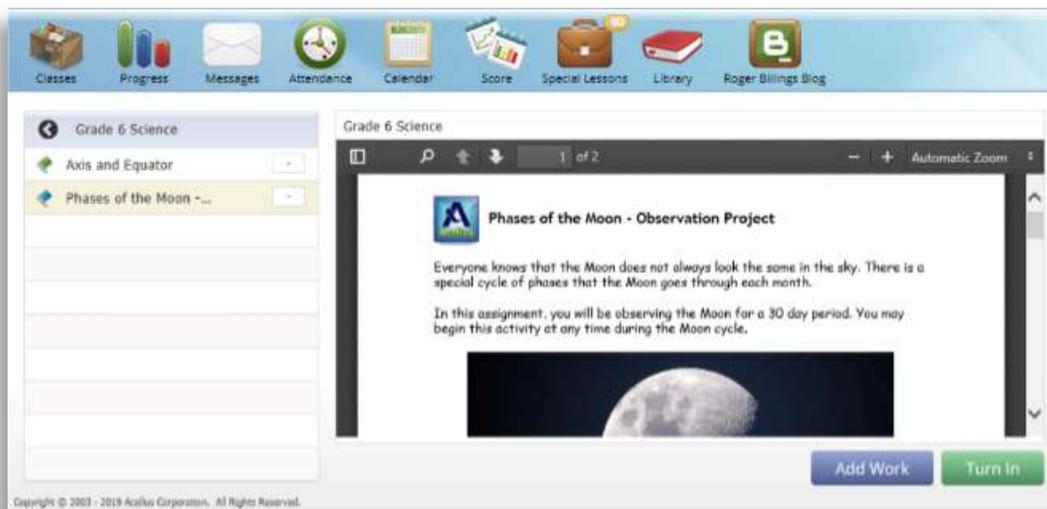


Figure 93: Students know they have Special Lesson assignments when they see the yellow bubble on the briefcase icon. Selecting the icon allows them to access the lessons. Lessons with a blue flag are ready to be done. Lessons with a green flag have been completed.

student turns in the assignment, the flag turns green. Upcoming Special Lessons become viewable by students when they reach the appropriate point in the course.

Students have two options for uploading their assignments. When they have completed an assignment and are ready to turn it in, they select Add Work (see Figure 93). They can select Upload a Picture, which will activate the camera for students who are using mobile devices so that they can take a picture(s), or will activate a file explorer program on a laptop or desktop computer so that they can locate the picture they have stored on this computer. Alternatively, they can select Create a Text File, which will open a text editor they can use to create a text file.

Library

The Acellus *Library* offers additional educational material (see Figure 94). Teachers can draw upon this material to extend their lessons by assigning media from the library as homework. Students can also browse the school library for information almost like an educational version of YouTube. When a student checks out an item – or a teacher checks something out for a class – that item is listed in the Checked Out list, so that the student doesn't have to search for it.

The Roger Billings Blog

Dr. Billings, the visionary scientist who created the Acellus System, has created a special blog just for students (see Figure 95). Here he posts information about hot new applications of science and technology, as well as inspirational and motivational messages, all designed to help students see a larger picture of the



Figure 94: When a student checks out an item from the library, - or a teacher checks an item out for a class - it appears in the "Checked Out" list, so they don't have to search for it.

world before them and their place in it – to see that they can make a difference, and to help them see how to do it. New Acellus features and Acellus-wide events, such as Acellus Camp, are also announced here.

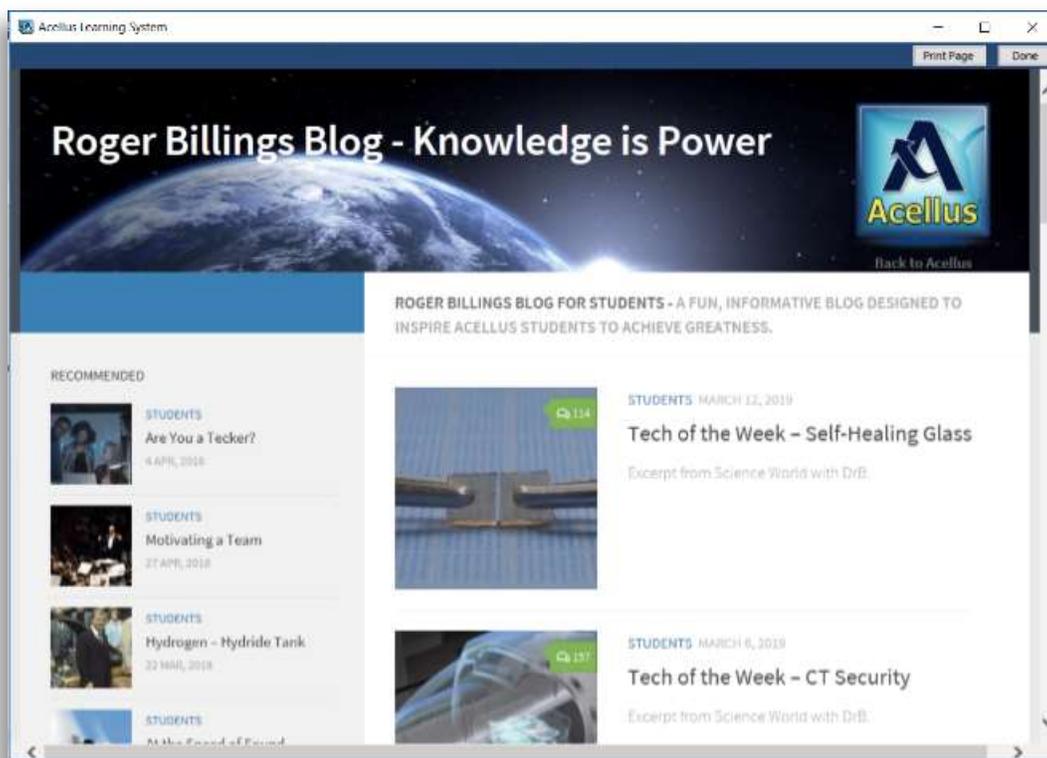


Figure 95: The Roger Billings Blog for Students presents new and exciting technologies as well as inspirational and motivational messages. The blog is designed to inspire Acellus students to achieve greatness.

Parent Registration



The screenshot shows the Acellus student interface. At the top, the Acellus logo is on the left, and the text "Welcome, Andrew | Carrellton High School | Parent Registration | Sign Out" is on the right. Below this is a navigation bar with icons for Classes, Progress, Messages, Attendance, Calendar, Score, Special Lessons, Library, and Roger Billings Blog. The main content area is titled "Specify Email Addresses" and contains a table with four rows for email addresses. The first row is for "Parent Email" with the value "msmith@gmail.com". The second row is for "Parent Email" with the value "csmith@yahoo.com" and a small 'x' icon to its right. The third and fourth rows are for "Parent Email" and "Advisor Email" respectively, both with empty input fields. At the bottom right of the form are "Submit" and "Cancel" buttons. A yellow box at the bottom left contains the text: "By adding an email, you are giving the recipient access to your personal Acellus records."

Figure 96: Students can insert a parent's email address using the Parent Registration link in the upper right corner of their Acellus Interface. The parent will receive an invitation by email to monitor the student's work.

In the upper-right corner of the Student Interface students can select a link, *Parent Registration*, and enter the email address of up to three parents and one advisor. These people will be sent an email inviting them to monitor this student's progress in the Acellus Parent Interface. The Parent Interface uses GoldKey Security to protect student data. For more information, please contact your Acellus Coordinator (contact information can be found under Contact Us in the Appendix).

Chapter 9: Managing Classes

Acellus can help you manage your classes. Whether you are taking attendance or keeping track of assignments, Acellus has tools to help. In this chapter we will talk about the following:

Getting Students Started

Attendance

Determining the Need for Intervention

Tools for Intervention

Grading

Student Profiles

Troubleshooting -- Student Issues

Getting Students Started

The Acellus Student Interface is quite intuitive, as shown previously. Students sign in by opening their browsers to www.acellus.com, selecting *Student Sign In*, then entering their Acellus ID and password.



Figure 97: Students can access the sign-in page by selecting Student Sign In at www.acellus.com.

Student Sign-in

In many cases, the Technology Director at an Acellus school will set up the student workstations or laptops so that each has an icon right on the desktop that will open to the Acellus *Sign-in* screen in their browser. At other schools, the link to the *Sign-in* screen is located on the school website. Either way, every student should have access to the Acellus *Sign-in* screen located at www.acellus.com.

To begin, the students need to enter their Acellus ID and password, which are automatically generated by Acellus. To distribute student IDs and passwords, print and pass out **Student Sign-In Cards**. Thereafter, if students forget their passwords, you can generate a new password by selecting the *Generate New Password* button on the Student Profile page, as follows:

Change Student Passwords

1. On the menu bar, select *Students*.
2. Search for and select the student whose password you want to change.
3. Select *Profile*.
4. Select *Generate New Password*.

Attendance



For every class where it is set to do so, whenever students are working on Acellus courses, the Acellus system will take attendance automatically. You can assign students to get right to work on an Acellus Course at the beginning of class – and Acellus will tell you if they start late. Acellus

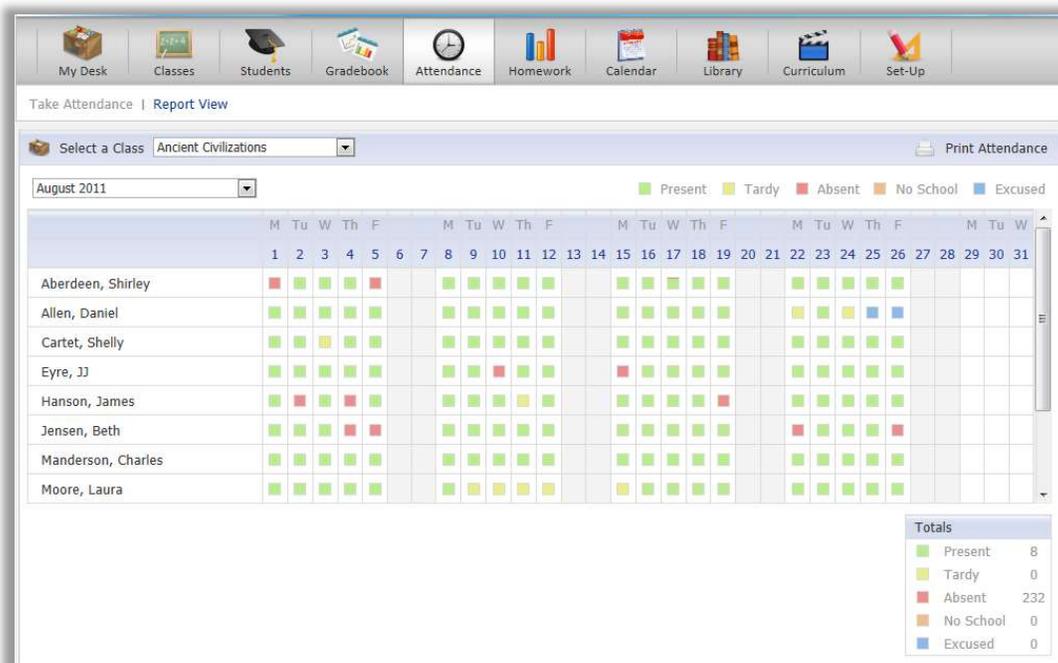


Figure 98: The Attendance Report View can be printed as part of your permanent physical file, if desired.

will mark students present, absent, or tardy. A class can be set to indicate that Acellus should not mark students absent or tardy. This enables you to mark attendance in the Acellus attendance tool, including the ability to enter *No School* days and *Excused* days, if you wish.

To mark or view attendance, select *Attendance* from the menu at the top of the Acellus Teacher Interface.

Acellus Attendance Reports are color coded so you can assess them with just a quick look. The attendance page can be printed to add to physical records.

The *Attendance Report View* displays attendance for a month at a time for an entire class. As before, attendance is color coded to make it easy to assess, and the report can be printed and made part of your physical records.

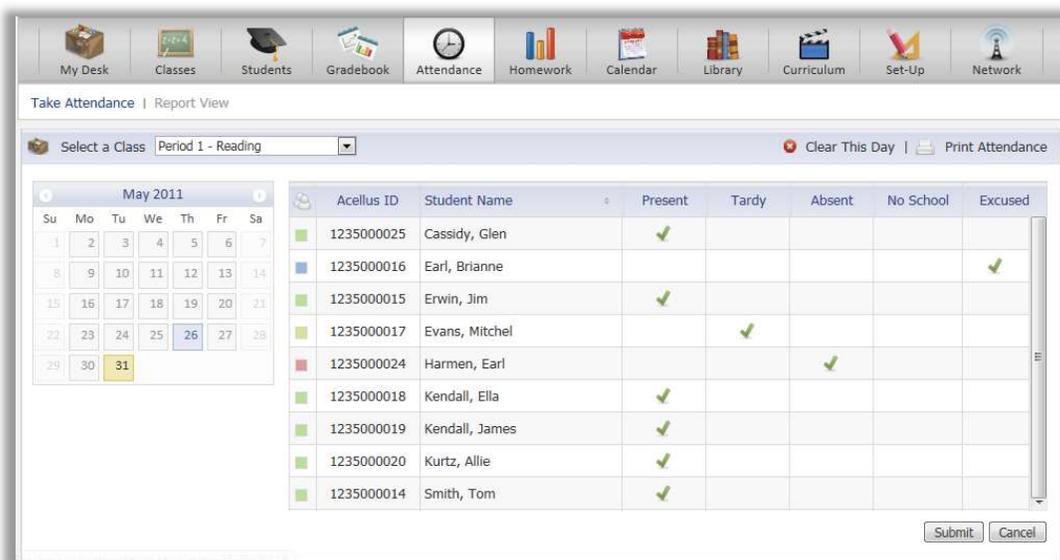


Figure 99: Acellus can mark students present, absent, or tardy. You can mark No School days and Excused days.

Determining the Need for Intervention

The Acellus System is an autonomous learning program, designed to allow students to start at the beginning of each course and move consecutively through the lessons, moving as quickly as the student is able. This leverages you as much as possible, allowing you to focus your attention on the students who get stuck, have questions, or in other ways need your help.

The Acellus Teacher Interface gives you many avenues to help you discover which students need you at any given moment, and what help they need. You can use these tools during your Acellus class time to help you quickly take care of students' problems, thereby minimizing their frustration and increasing their

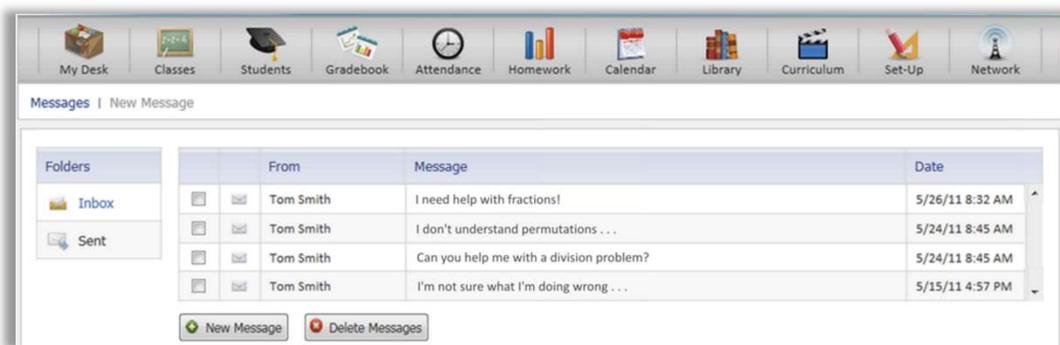


Figure 100: Acellus messages can help make order out of the chaos of students asking for help.

enjoyment of the learning process and their productivity. The more successful the students are, the more they will enjoy learning.

Acellus provides the following tools for discovering the need for intervention:

Messages

The Acellus System provides a private messaging system between Teachers and their students. *My Desk* tells you when you have messages from students, and gives you a link to your *Acellus Messages Inbox*, where you can view student messages, view messages you have sent, create new messages, and reply to student messages. The messaging system allows students to let you know when they need help without interrupting what you're doing.

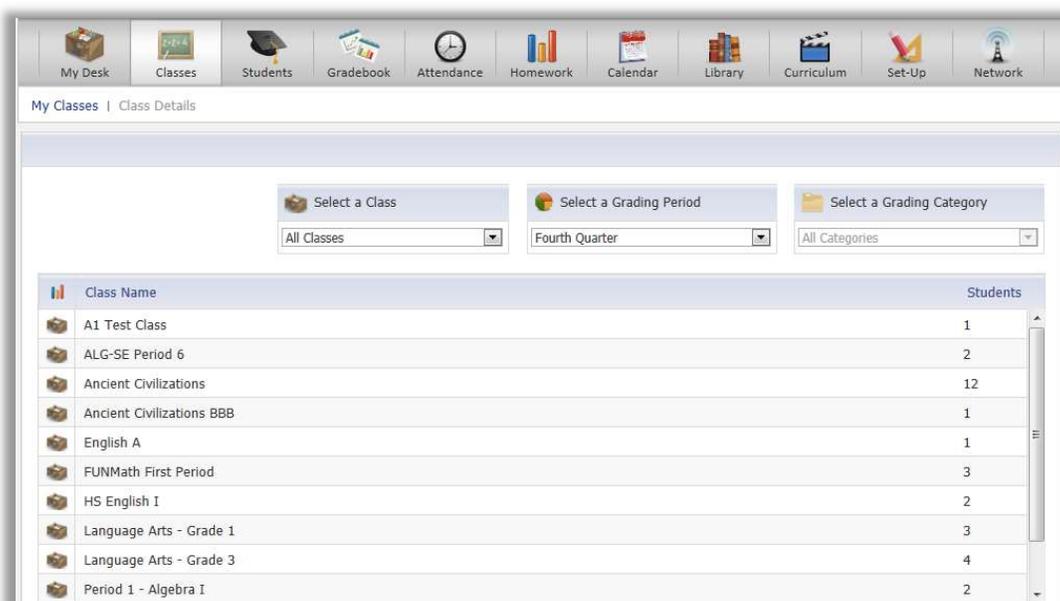


Figure 101: The Classes screen shows you a list of all of your classes, including the number of students registered in each class.

Acellus ID	Student Name	Grade	Attendance	Current Position	Progress	Class Goal
123-500-0092	Cartet, Shelly	0%		19. Paragraphs	🟢	▬
123-500-0076	Eyre, JJ	91%		32. Proofreading Marks and Rules	🟢	▬
123-500-0093	Hanson, James	0%		25. Prewrite - Personal Narrative	🟢	▬
567-270-0001	Jensen, Beth	0%		28. Writing a Draft Using a Cluster Map	🟢	▬

Figure 102: The Class Details screen lists each student and summarizes their progress. This screen can be accessed quickly from My Desk → Student Listing. Use Select a Class as needed.

Class Progress

The Acellus System provides you with the ability to see overall class progress quickly, and to zero in on students who need your help. Select *Classes* to see a list of your classes.

Class Details

On the *Classes* screen, select a specific class, or select *Class Details* to see more information (see Figure 102). On the *Class Details* screen you can see:

- The average class grade
- Students' current positions
- Students' current grades in this class
- A visual indication of each student's progress in the course

Using the pull-down lists, you can further utilize the *Class Details* report by selecting a different *Grading Period* to determine long-term trends in student performance, or selecting specific *Grading Categories* for more specific information. You can also access the *Live Class Monitor* for the selected class, as well as the *Goals* screen. In addition, the Class Details report can be printed via the *Print Report* button.

From *Class Details* you can jump to other pages:

- to the *Repeat Concepts* page (more on this in the *Tools for Intervention* section).
- to the *Reposition Students* screen (more on this in the *Tools for Intervention* section).
- to the *Live Class Monitor* (more on this, next).
- to the *Goals* page, where you can see the goals and individual students' progress toward them.
- to the *Student Details* screen (by selecting a student's name).

Live Class Monitor

The *Live Class Monitor* screen provides you with up-to-the-minute information about what – and how – each student is doing. Each student in a class is shown, as is the concept they are working on, and an

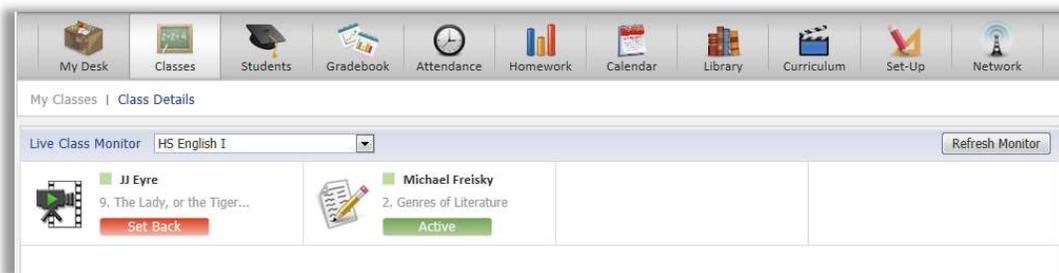


Figure 103: The Live Class Monitor screen shows you a list of the students in your class and what – and how – they are doing at any given moment.

indication of whether they are working on a video, problems, or a drill. In addition, a color-coded bar indicates their current status. For example, the word “Active” in a green bar indicates that the student is working on the displayed concept and making forward progress. The words “Extra Help Video” in an orange bar indicate that the student has skipped too many problems or entered too many wrong answers and they are being given an extra help video. The words “Set Back” in a red bar indicate that, after seeing an Extra Help Video, the student has again exceeded the wrong answer limit and has been set back to the previous lesson. Selecting a student on the Live Class Monitor takes you to the Student Details screen, where you can get more detailed information about how the student is doing.

Student Details

On the *Class Details* screen, you can select students’ names to see their recent activities. The *Student Details* screen (Figure 105) is also accessible by selecting *Students* on the menu at the top, which takes you to the *Student Search* screen (Figure 104).

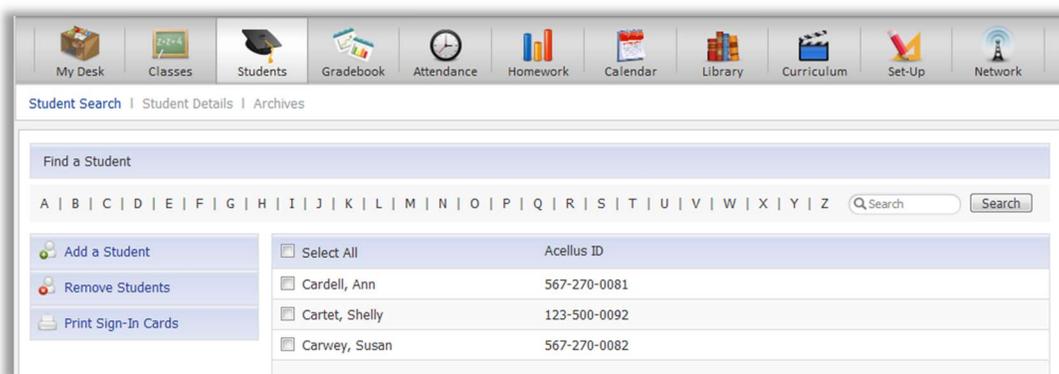


Figure 104: Use the alphabet list to search by last name, or enter a letter or name into the search field to find a student. Select a student to see a Report Card displaying a list of the student’s classes and grades.

Select a letter to search by last name, or enter a letter(s) or name in the search field and select *Search* (see Figure 104). Select a student to see a list of the student’s classes, and then select a class to go to the *Student Details* page (Figure 105).

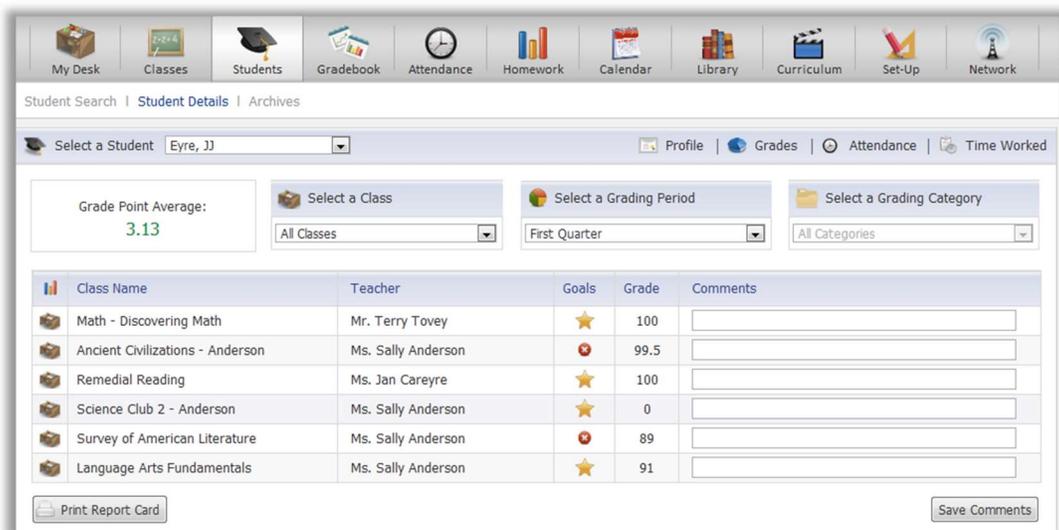


Figure 105: To list a student's classes, go to the Student Details screen. This screen also shows whether student goals have been met, the current grade in each class, and teacher comments.

On the *Student Details* screen you can see a list of a student's classes and status in each -- whether goals have been met, current grades, and teacher comments.

To see details of the student's work, select one of his/her classes and the appropriate grading category. This will tell you exactly which concepts the student is struggling with. You can also access the student's profile, grades, or attendance, or print a student Report Card via the *Print Report Card* button.

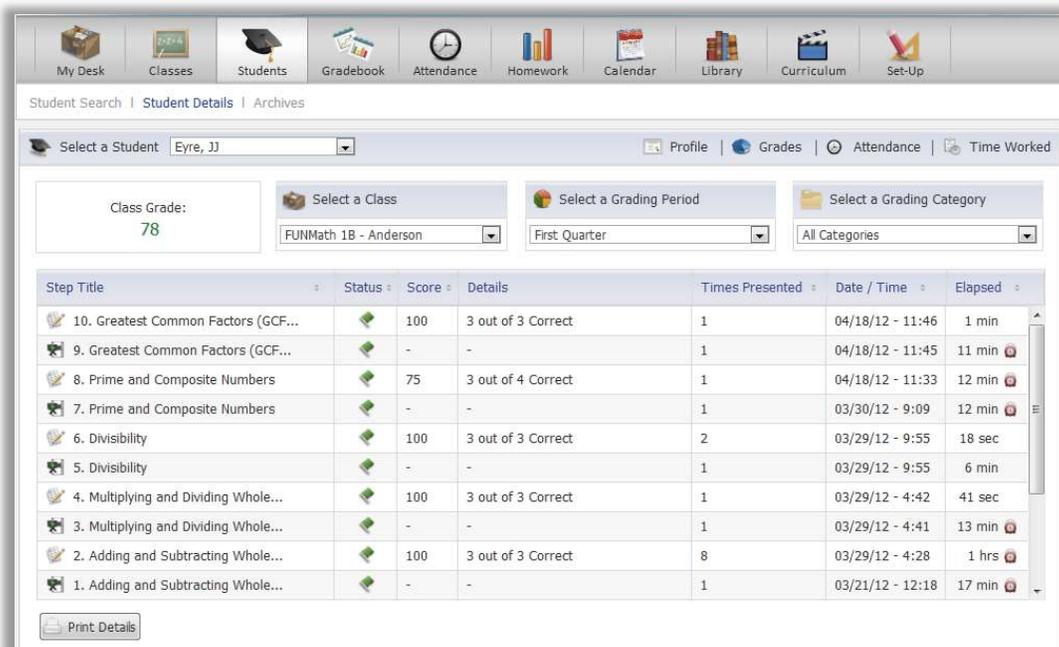


Figure 106: Greater detail of student work can be seen one step deeper when you select a class, revealing which concepts the student really understands, and which he needs help with.

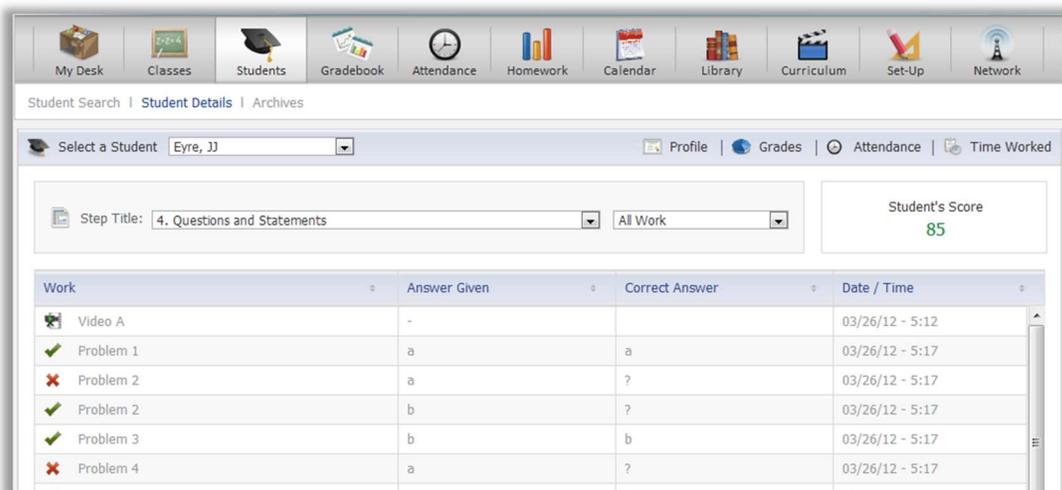


Figure 107: Seeing both the student's answers and the correct answers can help you determine what it is the student needs help with. Select a problem to see it as the student sees it.

For even more detail, select one of the Problem steps, and you will be shown a list of the problems the student has done, the answer he entered, the correct answer, and the date and time the student entered the answer (see Figure 107). To see the problem as the student sees it, select a problem.

The Time Worked Report

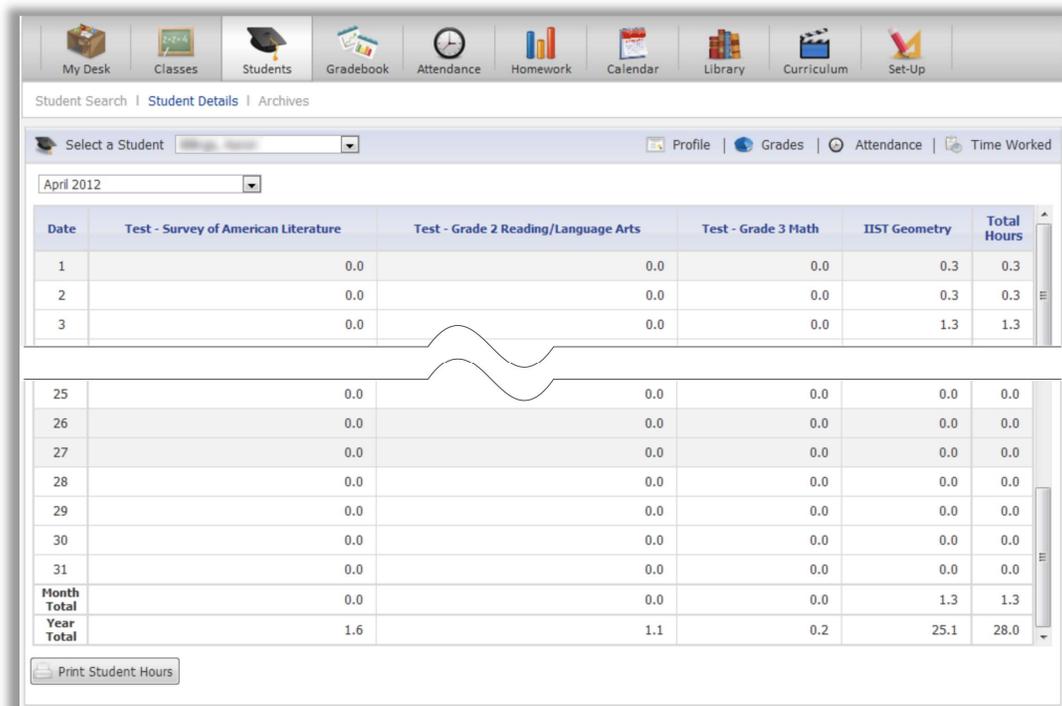


Figure 108: The Time Worked Report displays how many hours a student has spent on each of his/her Acellus classes each day for a month at a time. Monthly and yearly totals are also shown. Print this report by selecting the Print Student Hours button (lower left corner).

The *Time Worked Report* shows you how much time a student has spent on each of his/her Acellus classes, each day. The report shows an entire month at a time, including monthly and yearly totals for each class, as well as total hours spent on Acellus. You can use this report to help determine whether students are spending an appropriate amount of time on a course.

Tools for Intervention

Student and Class Reports

When a student is having trouble, it can be very useful to see the details of the work they have done. There are several ways to access the Student Details screen:

1. Select *Classes* → *Class Details* → select a Student.
2. Select *GradeBook* → select the appropriate class → select a student.
3. Select *Students* → search for the student or select the first letter of their last name → select the student → select the appropriate class.

Here you can see each lesson that the student has completed, including the concept presented, the student's score on the problems, the number of problems they answered correctly and the total number answered, as well as the date and time they did the problems.

Note: Under *Select Grading Categories*, select *All Categories* to see each video, drill, and set of problems. With the default, *All Student Work* selected, you will see only sets of problems.

The Student Details Report can be printed out to be included in the students' files, or to be shown to them or their parents. To print the Student Details screen, select the *Print Details* button. A printer-friendly

Figure 109: The Homework feature is very flexible. Homework is an assignment and appears in the Gradebook. You can grade it like any other assignment.

version of the report will open. Select *Print*. As noted on the screen, for best results, select Landscape orientation in your printer dialog box, then continue as you normally would. To see the answers the student entered and the correct answer for each problem, select one of the problem sets. To see the problem as the student saw it, select one of the problems.



Figure 110: Memorization songs from the library help students retain facts in long-term memory – and help you to differentiate instruction.

Homework

You can give homework assignments to specific students to help them master concepts they are struggling with. Homework can be assigned to one student, to a few students, or to a whole class.

To create a homework assignment, go to either *My Desk* or to *Menu* → *Homework* → *New Homework*. You may want to assign one or more students to review some media in the Acellus Library. You may email them a worksheet or assign them pages in a textbook. Whatever you choose to assign, *Acellus Homework* gives you a way to communicate the assignment to the selected students, as well as a place to keep track of the grades you assign.

The Acellus Library



The Acellus Library contains additional educational material such as memorization songs or science labs that you can use to enrich your classes and help students learn concepts. Using the Acellus library, you can supplement and differentiate classroom instruction by assigning your class to watch a specific video. Check out the video for the class to make it readily accessible for them in the “checked out” list. You could arrange a “private viewing” for a small group, or even a one-on-one lesson with a student in an unusual setting – away from their desk or yours. Meeting in a small group or one-on-one with students allows you to discuss the concepts with each of them and to discover and overcome their misconceptions.

Student Goals



Sometimes students need help with motivation, and adjusting their goals can help. Students who are overwhelmed may need a goal of fewer weekly steps, or more time before their completion date. Other students need to feel challenged, and need a weekly goal of more steps, or with less time until their completion date.

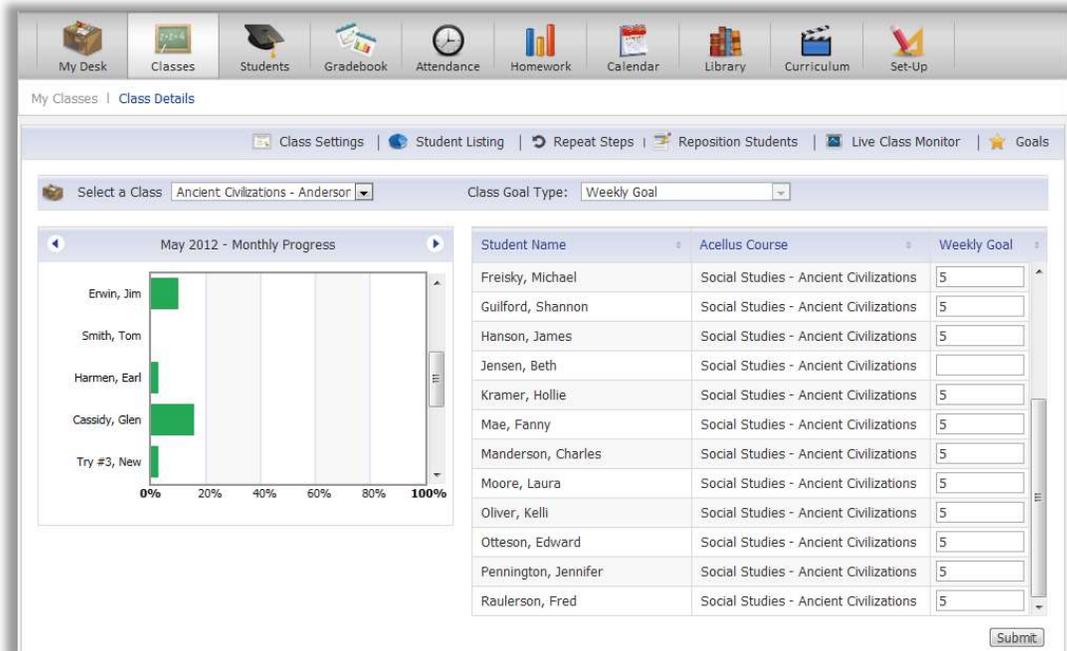


Figure 111: Goals can be adjusted, student by student, giving you one more tool for motivating students.

Whether your class goals are based on a course completion date or on the number of weekly steps students must complete, you can adjust the individual student goals. To do so, go to *Classes*, then select a Class, or select *Class Details* → *Goals*.

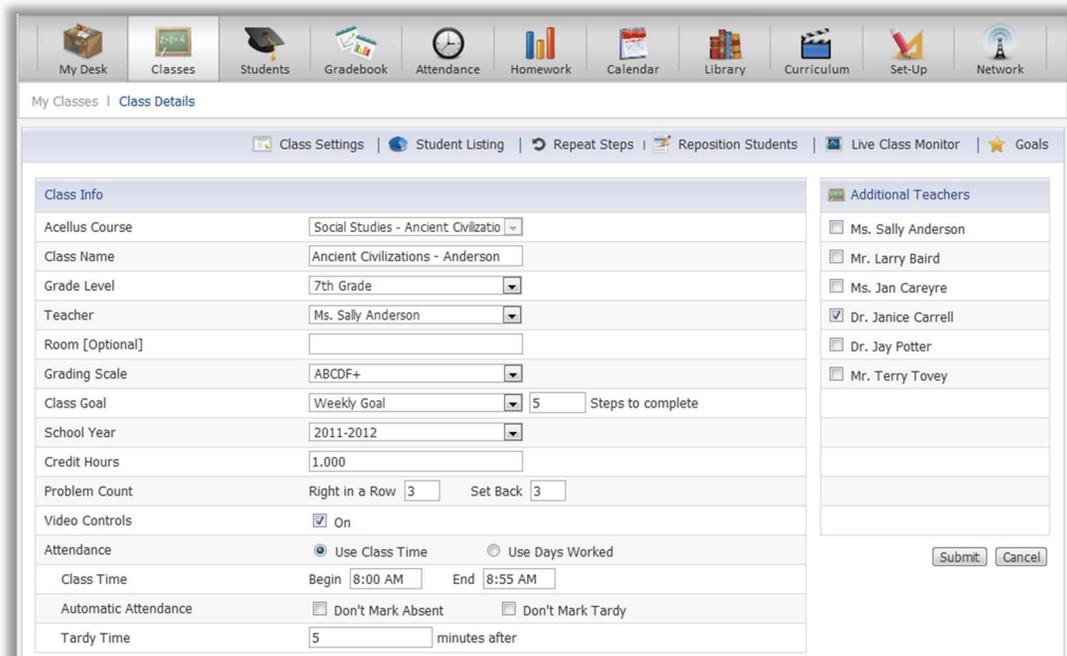


Figure 112: To change a class goal from a Weekly Goal to a Course Completion Goal, or vice versa, go to *Classes* → *Class Detail* → *Class Settings*.

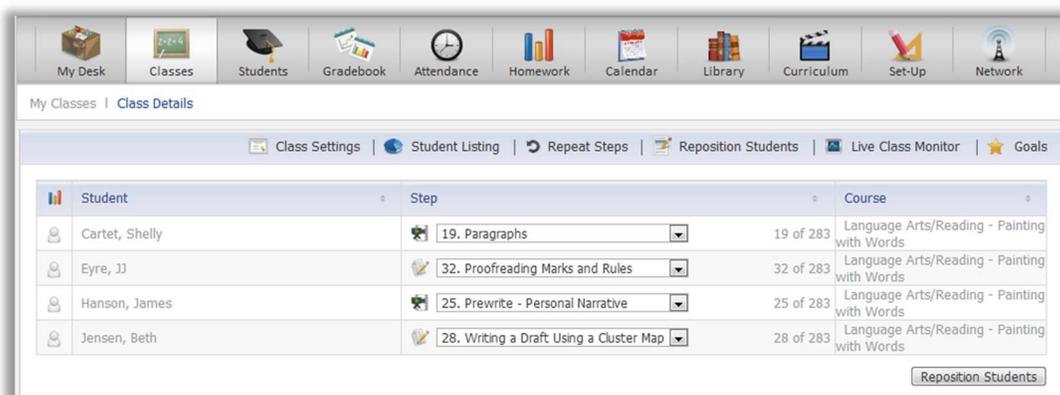


Figure 113: Most of the time, repositioning will not be necessary. Sometimes, however, it will help the student conquer a concept. In Acellus, repositioning preserves previous student records.

You can also change the class goal type from Weekly Goal to Completion Date, or vice versa. Select *Set-up* → select the class you want to change → *Edit Class* → change the *Class Goal* type. Or, from *Classes* → *Class Details*, just select *Class Settings*, which will take you to the *Class Info* screen.

Repositioning Students

In most cases, students will move through Acellus courses in a customized progression based on the course syllabus and the students' individual needs. Sometimes, however, it becomes necessary to give students extra help by repositioning them to repeat a concept(s), or by moving them forward to a different concept.

In addition, if a student has completed a course but you are aware of an area of weakness in his or her understanding, even though the student no longer sees the course on their class list, you can reposition this student back into the course. When the student completed the course, the class disappeared from his or her class list. However, when you have repositioned the student, the class will again appear there and he or she can select the course again. Acellus will present each concept in succession from the point where the student was repositioned until he or she again completes the course.

To do this, go to the *Class Details* screen → *Reposition Students* (Figure 113). Use the *Step* pull-down to select a new step (this is located to the right of the name of each student(s) to be repositioned). Then select the *Reposition Students* button (bottom of screen).

Note: each time the student completes a course, a record is written to the Archives.

Repeat Concepts

From time to time, it may become apparent that one or more of your students need to brush up on a past concept, or you may want to reinforce a concept. In this case, you can set the student(s) to repeat a given concept. More specifically, you can set them to repeat the concept video lesson, the problems associated with the lesson, or both.

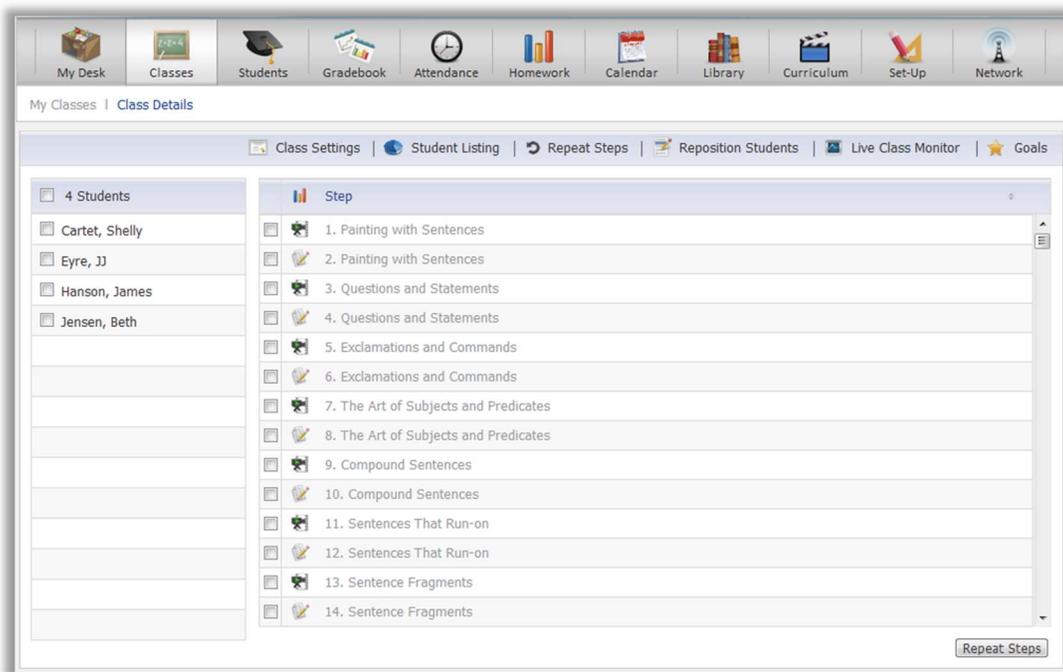


Figure 114: Set individuals, groups, or your whole class to repeat specific concepts.

To do this, go to *Classes* and select the appropriate class, then select *Repeat Steps* on the light blue menu bar. Select the student(s) who will be repeating the step(s), select the appropriate step(s), and then select the *Repeat Steps* button located in the lower right part of the screen. When the students next sign into this class in Acellus, the steps you have set to be repeated will be presented to them. After completing these steps, the students will continue where they were previously.

The Time Worked Report

The *Time Worked Report* shows you how much time a student has spent on each of his/her Acellus classes, each day. The report shows a month at a time, with monthly and yearly totals for each class, as well as total hours spent on Acellus (see Figure 115). This report can be printed for the student's permanent record.

Grading

Acellus automatically sets grades for Acellus courses based on the Acellus grade weights that have been set for each class. You can see these grades in the Acellus Gradebook (see Figure 116), accessible from the Menu Bar or from My Desk. Information provided includes the number of lessons watched, score on problems, summary of performance on Unit, Mid-Term, and Final Exams, a Progress Summary, and Supplemental Grades added for teacher-generated assignments.

Date	Test - Survey of American Literature	Test - Grade 2 Reading/Language Arts	Test - Grade 3 Math	IIST Geometry	Total Hours
1	0.0	0.0	0.0	0.3	0.3
2	0.0	0.0	0.0	0.3	0.3
3	0.0	0.0	0.0	1.3	1.3
25	0.0	0.0	0.0	0.0	0.0
26	0.0	0.0	0.0	0.0	0.0
27	0.0	0.0	0.0	0.0	0.0
28	0.0	0.0	0.0	0.0	0.0
29	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0
31	0.0	0.0	0.0	0.0	0.0
Month Total	0.0	0.0	0.0	1.3	1.3
Year Total	1.6	1.1	0.2	25.1	28.0

Figure 115: The Time Worked Report can be printed for the student's permanent record.

	Lessons Watched	Lesson Problem Summary	Unit Exam Summary	Mid-Term Exam	Final Exam	Progress Summary	Supplemental Grades	Student Grades
Class Average	525	99%	97%	-	-	118	-	97.9
Student 1	52	99%	96%	-	-	118 of 339	-	97.5
Student 2	38	99%	99%	-	-	86 of 339	-	99
Student 3	45	96%	96%	-	-	102 of 339	-	96
Student 4	55	99%	98%	-	-	123 of 339	-	98.5
Student 5	57	99%	97%	-	-	129 of 339	-	98
Student 6	77	99%	99%	-	-	174 of 339	-	99
Student 7	62	98%	93%	-	-	140 of 339	-	95.5
Student 8	46	99%	97%	-	-	103 of 339	-	98
Student 9	49	100%	100%	-	-	109 of 339	-	100

Figure 116: Acellus sets student grades based on the grade weights and grading scale.

Select a student name to see details of that student's activity in the selected currently class (see Figure 117). You can also access details of student supplemental work by selecting the *Supplemental Grades* column. You will see a summary the teacher-generated assignments.

The Acellus Gradebook provides you with the ability to enter grades for Teacher-generated (non-Acellus) assignments (see Figure 118). Select non-Acellus assignments to enter grades, status, and comments for Teacher-controlled assignments. Be sure to select the correct *Grading Period*. You can move from one assignment to another using the pull-down labeled *Select an Assignment*.

Printing the Gradebook

To print the Gradebook, select the *Print Gradebook* button. A printer-friendly version of the Gradebook will open. Select the *Print* button. As noted on the screen, for best results you should use Landscape mode when printing this report. Select Landscape under Orientation in your print dialog screens, then continue as normal.

Export the Gradebook

You can export the Gradebook report into a spreadsheet-friendly format (csv) by selecting the *Export Gradebook* button. The file that will be downloaded can be opened in Microsoft Excel or a similar spreadsheet program

Step Title	Status	Score	Details	Times Presented	Date / Time	Elapsed
10. Greatest Common Factors (GCF...	✔	100	3 out of 3 Correct	1	04/18/12 - 11:46	1 min
9. Greatest Common Factors (GCF...	✔	-	-	1	04/18/12 - 11:45	11 min
8. Prime and Composite Numbers	✔	75	3 out of 4 Correct	1	04/18/12 - 11:33	12 min
7. Prime and Composite Numbers	✔	-	-	1	03/30/12 - 9:09	12 min
6. Divisibility	✔	100	3 out of 3 Correct	2	03/29/12 - 9:55	18 sec
5. Divisibility	✔	-	-	1	03/29/12 - 9:55	6 min
4. Multiplying and Dividing Whole...	✔	100	3 out of 3 Correct	1	03/29/12 - 4:42	41 sec
3. Multiplying and Dividing Whole...	✔	-	-	1	03/29/12 - 4:41	13 min
2. Adding and Subtracting Whole...	✔	100	3 out of 3 Correct	8	03/29/12 - 4:28	1 hrs
1. Adding and Subtracting Whole...	✔	-	-	1	03/21/12 - 12:18	17 min

Figure 117: Selecting one of the assignments brings up the details – a status flag, their score, the number of problems they answered correctly compared to the total number they were given to do, how many times they've seen the step, the date and time when they did the step, and how much time the step took. Notice the icon on the left indicating the step type, and the alarm on the right indicating slow progress. To print this report, select the Print Details button.

The screenshot shows the 'Gradebook | Assignments' interface. At the top, there are navigation icons for My Desk, Classes, Students, Gradebook, Attendance, Homework, Calendar, Library, and Curriculum. Below these, there are dropdown menus for 'Select a Class' (Period 1 - Reading), 'Select a Grading Period' (First Quarter), and 'Select an Assignment' (Homework 1). The main area displays the assignment details: Title: Homework 1, Due: 02/21/2011, Grading Scale: ABCDF+, Category: Assignment, and Average Grade: A. Below this is a table with columns for Student Name, Grade, Status [Optional], and Comments [Optional]. The table lists 10 students with their respective grades and statuses. A 'Delete Assignment' button is at the bottom left, and a 'Submit' button is at the bottom right.

Student Name	Grade	Status [Optional]	Comments [Optional]
✓ Cassidy, Glen	A	Complete	
✓ Earl, Brianne	A	Complete	
✓ Erwin, Jim	B	Complete	
✓ Evans, Mitchel	A+	Complete	
✓ Harmen, Earl	B	Complete	
✓ Kendall, Ella	B-	Complete	
✓ Kendall, James	A	Complete	
✓ Kurtz, Allie	A	Complete	
✗ Smith, George		Late	
✓ Smith, Tom	A	Complete	

Figure 118: Insert grades, status, and comments for each teacher-controlled assignment.

Student Profiles

The details of a student's profile can sometimes give clues for what interventional measures will help. Access *Student Profiles* through *Students* → *Search for a Student* → *Student Details* → *Profile*, OR through *Classes* → *Class Details* → select a student for *Student Details* → *Profile*. (See Figure 119.)

The screenshot shows the 'Student Search | Student Details | Archives' interface. At the top, there are navigation icons for My Desk, Classes, Students, Gradebook, Attendance, Homework, Calendar, Library, Curriculum, Set-Up, and Network. Below these, there is a 'Select a Student' dropdown menu with 'Cardell, Ann' selected. The main area displays the student's profile information, including Student Data, Acellus ID, Password, First Name, Last Name, Grade Level, E-mail Address [Optional], Gender [Optional], Date of Birth [Optional], Ethnicity, Economic Status, and Native Tongue. A 'Generate New Password' button is next to the password field. At the bottom right, there are 'Submit' and 'Cancel' buttons.

Acellus ID	567-270-0081	
Password	c75gqx	Generate New Password
First Name	Ann	
Last Name	Cardell	
Grade Level	University	
E-mail Address [Optional]	acardell@jcetestschool.edu	
Gender [Optional]	<input type="radio"/> Male <input checked="" type="radio"/> Female	
Date of Birth [Optional]		
Ethnicity	Caucasian	
Economic Status	None	
Native Tongue	English	

Figure 119: Knowing details of a student's profile can often help lead you to appropriate interventional measures.

Troubleshooting

When Students Forget Their Passwords

If students forget their passwords, you can reprint sign-in card(s) by selecting *Students* → *Print Sign-In Cards* → select the appropriate class → select the student(s) → select *Print Sign-In Cards*. This will give the student(s) the password(s) they have forgotten.

Alternatively, you can generate a new password by going to *Students* → search for and select the student → *Profile* → *Generate New Password*. Next, follow the steps above to print a new sign-in card for the student that will display the new password.

Student Class List Does Not Respond

If a student selects a class in their *Class List* and nothing happens, the class is not an Acellus class. If it was supposed to be, the class will have to be deleted and re-created. When re-creating the class, be sure to select the Acellus course you want the class to take.

Student Scores Are Displayed As “0%”

If all student scores are displayed as “0%”, check to see which grading period is selected. If a grading period has just ended and students have not done any work in the new grading period, scores will be displayed as “0%”. Select the previous grading period to see the work the students have done, or select *All Work*.

If the grading period is correct and the students have done work within this period but you still see no record of the work they have done, go to *Set-up* → *Grading Options* → *Grading Scale* → *select the class* and make sure that the percentages for the scale you are using have been set correctly. If not, add the percentages.

Section IV: Acellus Courseware Development System

The Acellus Courseware Development System (ACDS) is a cutting-edge, high-tech tool designed to allow course developers, educators, and others to work together in a scientific process of improving education by improving Acellus Courseware. Through the ACDS, courses are analyzed using scientific data to determine where problems exist and what needs to be improved. As a result, videos, problems, notes and answers can be corrected and/or added, and then the process can be begun again for further refinement.

Chapter 10: The Acellus Courseware Development System

In this chapter we will discuss the following:

What is the ACDS?

Overview of the ACDS

Participating in the ACDS

What is the Acellus Courseware Development System?

Acellus, by definition, is *the science of learning*. Based on sound, scientific principles, Acellus is not only a tool for teaching, but also provides the feedback, data, and tools necessary for course developers to systematically improve their courses and thus provide a progressively better learning experience for students. The **Acellus Courseware Development System** (ACDS) is a tool developed by the International Academy of Science to develop and improve Acellus courses.

The full development of an Acellus course involves many steps. About half of the steps are completed when a course is first released.

The first step is to create an outline – usually done in the form of a course syllabus. Once this is done, the course is filmed (usually a Level “A” and a Level “B” video for each lesson). The videos are edited and any needed retakes are done. Problems are created for each lesson, and correct answers are entered into the system. At about this point, the course is tested and released. But there is still much to do.

Within the ACDS, there is a workgroup for each Acellus Course that is under development or has been released. Each workgroup includes a Chairman, one or more Assistant Chairmen, and a group of Contributors. Guests are welcome, but are not able to participate in improving the courses.

As students begin to use the Acellus courses, data reflecting the effectiveness of the courseware is compiled. This data is available within the Acellus Courseware System.

Members of the Acellus National Education Workgroups review and analyze the Videos, Problems, Notes, and the student data to discover what works and what needs to be improved – and then they work to improve it. As a result, existing Problems and Videos are improved, Level C and D videos are added as needed, additional Problems are created, Notes are written and inserted into the courses, and short Customized Personal Instruction (CPI) videos are created and inserted into the courses, to be presented when students enter a particular, commonly-entered wrong answer to a given problem.

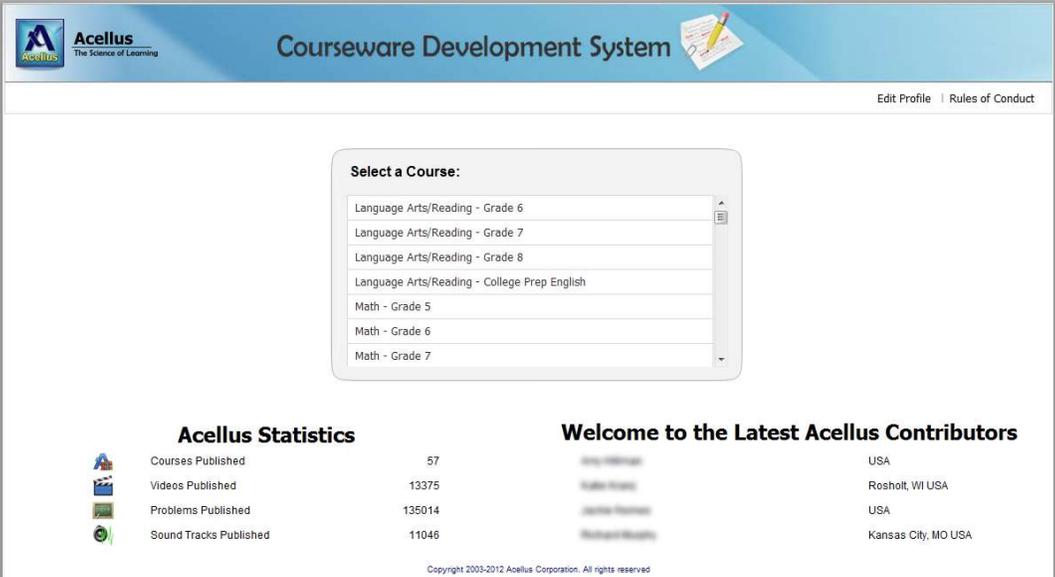
The Academy and the National Workgroups are actively engaged in working through this process to produce Acellus courses for a full core curriculum for grades K-12. Further course offerings in other areas are in planning or in the early stages of development at this time.

Overview of the ACDS

The ACDS is protected by GoldKey Security. Being a Workgroup Member requires that you have a GoldKey Security Token and are formally added to the system. For more information about becoming an active participant in the ACDS, please see the section titled *How To Become Involved*, below.

Once you are a Workgroup Member, you can access the ACDS by going to <http://courseware.acellus.com> and signing in using your GoldKey Security Token.

In the upper right corner of the Courseware Development System's opening page there is an *Edit Profile* link. Select this link to enter or correct your personal information in the ACDS system.



Acellus Statistics	
Courses Published	57
Videos Published	13375
Problems Published	135014
Sound Tracks Published	11046

Welcome to the Latest Acellus Contributors	
USA	
Rosholt, WI USA	
USA	
Kansas City, MO USA	

Figure 120: Select a course to view the course syllabus and access the problems, videos, notebooks, statistics, and communications for the course.

The Courseware Development System's Menu Page allows you to select any course that has been published or is in the development process.

The Syllabus

To view the *Syllabus*, from the opening page of the ACDS, select a Course (see Figure 121).

Within the *Syllabus*, for each step, you will see the following:

1. Step Number
2. Function Type (Problem, Video, Drill, Book, Review, or Exam)
3. Curriculum Concept – a unique identifier for each step
3. Pertinent Buttons
 - i. Video A, B, C, D, as appropriate
 - ii. Problems (with the current number of problems shown)
 - iii. Notebook (with the current number of note pages shown)
 - iv. Pages (for Books)

Note: In the case of a review or exam, the number of problems that will be given is shown here. The problems will be drawn from the lessons that are covered by the exam or review.

Videos

To review a lesson video, select any of the video buttons shown on the desired step in the syllabus and the lesson video will start to play automatically.

Step	Function Type	Curriculum Concept	Buttons
15	Video	Estimating	Video A, Video B, Notebook Pages 1-4
16	Problem	Estimating	Problems 1-10, Notebook Pages 1-4
17	Video	Order of Operations	Video A, Video B, Video C, Video D, Notebook Pages 1-4
18	Problem	Order of Operations	Problems 1-10, Notebook Pages 1-4
19	Video	Powers of Ten	Video A, Video B, Video C, Notebook Pages 1-3
20	Problem	Powers of Ten	Problems 1-10, Notebook Pages 1-3
21	Video	Formulas and Variables	Video A, Video B, Video C, Notebook Pages 1-2
22	Problem	Formulas and Variables	Problems 1-10, Notebook Pages 1-2
23	Review	Unit 1 Review	22 Random Problems
24	Exam	Unit 1 Exam	22 Random Problems
25	Video	Ratios, Rates, and Proportions	Video A, Video B, Video C, Notebook Pages 1-5
26	Problem	Ratios, Rates, and Proportions	Problems 1-10, Notebook Pages 1-5
27	Video	Improper and Mixed Fractions	Video A, Video B, Notebook Pages 1-3

At the bottom of the interface, there are buttons for 'Syllabus Editor', 'Acellus Library', and 'ClipArt Library'. The footer text reads: 'Copyright 2003-2012 Acellus Corporation. All rights reserved.'

Figure 121: The Syllabus viewer lists each step of a course. In addition to Videos and Problems, shown, the syllabus includes Drills, Reviews, and Exams.



Figure 122: You can review videos from any course that has been published or is in development, for which the videos have been released. This gives you a useful tool for finding ways of differentiating instruction in your classroom.

There will be a button shown for each video that is available. You can select any of these videos as desired. When finished, select another video, or close the video window.

Problems

Problems are the questions we ask students to answer. *Problems* serve different purposes: Drill problems are designed to help with memorization. Lesson problems are designed to provide practice and to test understanding. Problems can be designated for use in lessons, in exams, or in both. In Acellus, problems are created by workgroup members in the form of graphics and/or text elements that are placed into a pre-defined console, (see *Chapter 8: Becoming Familiar with the Student Interface*). In many cases, the same graphics and text elements can be used in multiple consoles.

In the ACDS system you can view the lesson, drill, and book problems for any of the courses in the System, including those that have been released and those that are under development. To do so, within a Course Syllabus, select the *Problems*, *Drill*, or *Book* button for any step. You will be shown a thumbnail list of the problems that have been published for that step (see Figure 123).

- By default you will see problems that have been published and are currently in use.
- Select the *Preview* button (lower left area of screen) to see the problem as it appears in its console.
- You can view the number and percentage of students who answered each problem correctly.
- You can view the correct answers for problems of any course where you are a workgroup member.

The screenshot shows the Acellus Courseware Development System interface. At the top, there's a navigation bar with 'Lesson Videos', 'Syllabus Editor', 'Problems', 'Notebook', and 'Validate'. The current course is 'Math - FUNMath' and the curriculum concept is 'Simple Interest'. Below this, there are status indicators for 'Misnamed Audio', 'Missing Video', 'Misnamed Video', 'No Answers', 'Too Many Answers', and 'Exam Checked'. A 'Delete Problem' button is visible. The main area is divided into three sections: 'Published' (with a pull-down menu and 'Import Problems'/'Create New Problem' buttons), 'Problem 3 - Select a Problem Element to Modify:' (containing a problem statement: 'Use I = PRT to solve. (time is in years) I = \$14,400 R = 8% Find P. T = 30 years (Remember, 8% = .08 in decimal form.)'), and 'Student Responses' (a table of correct answers and percentages).

Correct Answers	Count	Percentage
600	285	5.0%
60	158	2.8%
34560	149	2.6%
60000	126	2.2%
2.4	57	1.0%
38.4	47	0.8%
6	35	0.6%
345600	28	0.5%

Figure 123: To view or edit Problems, from the front page of the ACDS, select a course and then select the Problems button for any problem step. Use the pull-down list above the thumbnails to see problems that have not been published. Contributors can select Acceptable Answers to see the correct answers. (Access to correct answers is logged.) Select Add Comment to post a comment about the selected problem.

- You can view the wrong answers entered by students across the country, as well as the number of students who have entered them.
- You can view the Customized Personal Instruction videos for commonly-entered wrong answers.

Note: On the left side of the Problems screen, above the thumbnail list of problems, there is a pull-down with the values of Not Posted, Need Revision, Posted, Chairman Approved, Published, and All Problems.

The screenshot shows the Acellus Courseware Development System interface for editing a problem. The main area contains a question: 'Which letter on the map represents Asia?' with a world map where the letter 'A' is placed over North America. To the right, there is a 'Text Editor' panel with various formatting options: Font (Arial), Size (18 pt), Color (#000000), Style (Bold, Italic, Underline), Align (Left), and buttons for Highlight and Backlight. Below the text editor is a 'Size & Rotate' panel with Size (386), Rotate (0), and Positioning options (Super Nudge, Order, and directional arrows). At the bottom, there are 'Coordinates' fields for x (100) and y (110).

Figure 124: Problems consist of Graphics and Text Elements. The Problem Generator includes a graphics editor, shown here, where images and/or text can be placed, sized, and formatted, and then made into a graphic image.

Creating problems within Acellus requires awareness of the principles that impact the problem content.

- Unlike traditional classrooms, in Acellus only one concept is taught in each video lesson.
- The problems that students will be shown are pulled randomly from a large pool of problems created specifically for that concept – so all of the problems for one concept must specifically test the exact concept taught in the video, and they must all be at the same level of difficulty.

Appropriate instructions must be included with each problem, whether as an audio file, as written instructions within the graphics or text element, or as implied instructions, as in the case of most text questions.

Summary

The Acellus Courseware Development System includes many features that are beyond the scope of this manual. This system is useful for teachers who want to review course curricula or the problems or videos that their students are seeing, and, further, is a powerful tool for collaboration, allowing educators and other interested persons to work together to improve Acellus Courseware. These courses are now or soon will be in use by students in schools across the country, as well as students at home who want to supplement their education for an added boost as they prepare for college.

How to Become Involved

Acellus Participants

The Acellus Teacher Development Program is carried out through the ACDS. If you use Acellus and are interested in participating, check with your School Acellus Administrator to find out whether your school has an enrollment available. If not, enrollments are available through your Acellus Coordinator.

You can access the ACDS by going to signin.acellus.com and signing into the Acellus Teacher Interface (*GoldKey Sign-In* button), then selecting the *Curriculum* button. You will be asked to enter your GoldKey PIN again, and then will be taken to the ACDS. You will have Guest status and can view any of the courses. To join a Workgroup for a Course, if you have not already done so, please contact your School Acellus Administrator or your Acellus Coordinator.

Non-Acellus Participants, Already Enrolled

If you do not have Acellus, but have already been enrolled in the Acellus Teacher Development Program and have a GoldKey, please see the instructions located in Chapter 1 – Technology Concerns, under the heading The GoldKey Security System, to personalize your GoldKey.

If you do not yet have a GoldKey, you may be able to get one from the person who arranged for you to be enrolled, or you can contact your Acellus Coordinator. Once you have a GoldKey and a GoldKey ID and have been enrolled, you can access the Acellus Courseware Development System by entering the following in the address line of your browser: <http://courseware.acellus.com>.

Non-Acellus Participants, Not Yet Enrolled

If you do not have Acellus, and have not yet been enrolled in the Acellus Teacher Development Program, you will need to obtain a GoldKey Security Token and join the Teacher Development Community. To do so, contact us (see *Contact Information* in the *Appendix*).

When you have been enrolled and have a GoldKey Security Token, please see the instructions located in Chapter 1 – Technology Concerns, under the heading The GoldKey Security System, to personalize your GoldKey Token and obtain a GoldKey ID, and then return to *Non-Acellus Participants, Already Enrolled*, above.

How to Become a Contributor

Once you have joined the Acellus Teacher Development Community, in order to become actively involved in helping with the courses, you need to become a Contributor for one or more courses. As mentioned above, each Course has its own workgroup, made up of Contributors, Assistant Chairs, and a Chairman. If you have not already done so, to join an Acellus Course Workgroup as a Contributor, please contact your Acellus Coordinator at the Academy with the course(s) you would like to participate in.

For more information about the courseware development system, contact your Acellus Coordinator (see *Contact Information* in the *Appendix*).

Appendix

Contact Information

If you have any questions about using Acellus or GoldKey, you need to purchase more GoldKeys, or you have problems that are not covered in this Handbook, please contact your Acellus Coordinator, or Acellus Customer Service.

Contact Your Acellus Coordinator

You can find out who your coordinator is and/or contact him or her by calling us at this number:

816-229-3800

Contact Acellus Customer Service

Via email: acellus_support@science.edu

Via telephone, toll free: 877-411-1138.

Acellus Customer Service Hours:

7:00 am to 7:00 pm Central Time, Monday through Thursday

7:00 am to 5:00 pm Central Time on Fridays.

Please feel free to leave a message or email us after hours, and we'll get back to you as soon as possible on the next business day.

Trademarks

"Acellus" is a registered trademark of Acellus Corporation.

"GoldKey" and "GoldKeyVault" are registered trademarks of GoldKey Security Corporation.

"Windows" is a registered trademark of Microsoft Corporation.

"Mac" is a registered trademark of Apple Computer, Inc.

"Google" and "Google Chrome" are trademarks of Google Inc.

Acellus Educator's Handbook

Published by International Academy of Science
Copyright © 2003-2019 International Academy of Science. All Rights Reserved.
11020 N Ambassador Drive
Kansas City, MO 64153

Version 7.0.AT.190404