

**Course Title:** Technology, Leadership and Innovation

**Board Approval Date:** January 19, 2015

**Credit / Hours:** .5 credit

**Course Description:**

Technology Leadership and Innovation is a course designed for students who want to become adept at using software and hardware in a working environment. Throughout the course, students will assist teachers and students in selecting and using technology to its greatest potential. Students will choose areas of focus such as blogging and creating podcasts, software training, developing apps, evaluating apps, hardware repair and maintenance, and/or an independent project.

**Learning Activities / Modes of Assessment:**

Individual work  
Small group work  
Journal writing  
Teacher feedback/evaluation  
Extended thinking projects

**Instructional Resources:**

iPad writing course through Stanford University on iTunesU  
App Developer course through Stanford University on iTunesU  
Apple instructional materials for iPad and Macbook hardware  
Apple training materials for iLife and iWork  
Online guides to various apps and software packages  
iPad and Macbook hardware  
Headphones with Microphone

## Course Pacing Guide

Course: **Technology Leadership and Innovation**

**Course Unit (Topic)**

**Length of Instruction (Days/Periods)**

\*\*\*Students in this course will select one of the following units for the first nine weeks of the semester and another unit for the second nine weeks.

1. Bloggers and Content Creators	45 days
2. Software Trainer	45 days
3. Ap Developer Course	45 days
4. Ap Evaluator	45 days
5. Help Desk Management and Hardware Experts	45 days
6. Independent Path	45 days
<b>DAYS TOTAL IN COURSE</b>	<b>90 Days</b>

## Unit 1: Bloggers and Content Creators – 45 Days

### Key Learning

Project-based learning requires that teachers and students have knowledge of and access to a variety of new technologies including Web 2.0 sites, Ipad applications and/or various software packages for use in the classroom.

### Unit Essential Question

**How can new Web 2.0 technologies, Ipad applications and/or software packages that are useful to educators in the classroom be best disseminated and discussed for classroom use?**

### Grade-level Standards Addressed in the Unit

3.4.12.C3 Apply the concept that many technological problems require a multi-disciplinary approach.

CC.3.6.11-12.B. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

CC.3.6.11-12.E. Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

CC.3.6.11-12.I. Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

#### Know

- Free blogging software availability and functionality
- Methodology for customizing blogs with content, backgrounds, photos, images
- Free audio and video podcasting site availability and functionality
- Methodology for creating audio and video podcasts

#### Understand

- Obtaining knowledge and access to new technologies for use in the classroom is a complex task that requires research, planning, and preparation for best results.

#### Do

- suggest new technologies for use in the classroom
- author and maintain blog site
- create audio podcasts
- create video podcasts



## Unit 2: Software Trainer – 45 Days

### Key Learning

Project-based learning requires that teachers and students be able to utilize a variety of software packages many of which are very complex and thus may require extra training, tutorials, and practice.

### Unit Essential Question

**How can teachers and students best learn to use new technologies and software packages to facilitate higher order thinking skills?**

### Grade-level Standards Addressed in the Unit

3.4.12.C3 Apply the concept that many technological problems require a multi-disciplinary approach.

CC.3.6.11-12.B. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

CC.3.6.11-12.E. Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

CC.3.6.11-12.I. Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

#### Know

- basic functions of software packages including (but not limited to) iPhoto, iMovie, Pages, Numbers, Keynote, Word, Excel, Powerpoint, Reflector etc.
- how the Mac and iPad work (hardware, files, system preferences, etc.)

#### Understand

- Optimal use of technology in a classroom is a complex task and requires training, planning, and preparation for best results.

#### Do

- learn software packages with the goal of being able to teach others their functions
- demonstrate functions of software packages
- create video tutorials
- create electronic “iBooks”
- suggest applications for projects



## Unit 3: App Developer Course – 45 Days

### Key Learning

Several resources are available to learn the basics of mobile application development and deployment.

### Unit Essential Question

How can I create a mobile application for use on an operating system?

### Grade-level Standards Addressed in the Unit

3.4.12.C3 Apply the concept that many technological problems require a multi-disciplinary approach.

CC.3.6.11-12.B. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

CC.3.6.11-12.E. Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

CC.3.6.11-12.I. Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

<b>Know</b>	<b>Understand</b>	<b>Do</b>
<ul style="list-style-type: none"><li>• How to define an idea for a mobile application</li><li>• How to design an idea for a mobile application</li><li>• How to develop the mobile application</li><li>• How to deploy the mobile application</li></ul>	<ul style="list-style-type: none"><li>• Mobile applications can be developed for all content areas through various application developer courses.</li></ul>	<ul style="list-style-type: none"><li>• Define an idea for a mobile application</li><li>• Design the mobile application</li><li>• Develop the mobile application</li><li>• Deploy the mobile application</li></ul>

## Unit 4: App Evaluator – 45 Days

### Key Learning

Many criteria can be used to judge the usefulness of Web 2.0 sites or iPad apps for education. Finding the best websites and apps for specific classroom needs requires thorough evaluation and experimentation.

### Unit Essential Question

What makes a Web 2.0 site or iPad app useful to teachers and students?

### Grade-level Standards Addressed in the Unit

3.4.12.C3 Apply the concept that many technological problems require a multi-disciplinary approach.

CC.3.6.11-12.B. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

CC.3.6.11-12.E. Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

CC.3.6.11-12.I. Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

<b>Know</b>	<b>Understand</b>	<b>Do</b>
<ul style="list-style-type: none"><li>• how to find, install, and manage apps on an iPad</li><li>• how to filter apps to find ones for specific applications</li><li>• how to search out reviews of Web 2.0 sites and apps to find suggested solutions to classroom needs</li></ul>	<ul style="list-style-type: none"><li>• Web 2.0 sites and iPad apps can be useful in all content areas, but their effectiveness, introduction, and integration into the classroom requires planning and preparation.</li></ul>	<ul style="list-style-type: none"><li>• evaluate Web 2.0 sites and apps to judge their usefulness to specific classroom needs</li><li>• train teachers and students in the use of Web 2.0 sites and apps</li><li>• create tutorials, walk-through guides, and videos demonstrating the use of Web 2.0 sites and apps</li><li>• maintain a website of digital tools</li></ul>



## Unit 5: Help Desk Management and Hardware Experts – 45 Days

### Key Learning

The responsibilities of managing and maintaining a Help Desk are varied and diverse.

### Unit Essential Question

How is a Help Desk managed and maintained in an educational setting?

### Grade-level Standards Addressed in the Unit

3.4.12.C3 Apply the concept that many technological problems require a multi-disciplinary approach.

CC.3.6.11-12.B. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

CC.3.6.11-12.E. Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

CC.3.6.11-12.I. Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

<b>Know</b>	<b>Understand</b>	<b>Do</b>
<ul style="list-style-type: none"><li>• How to troubleshoot issues with all hardware devices</li><li>• How to repair technological devices</li><li>• How to track hardware through an inventory process</li><li>• How to track payments with spreadsheet software</li></ul>	<ul style="list-style-type: none"><li>• Managing and maintaining a help desk in an educational environment is varied and diverse.</li></ul>	<ul style="list-style-type: none"><li>• Troubleshoot hardware issues reported by faculty, staff and students</li><li>• Repair technological devices for faculty, staff and students</li><li>• Create and maintain hardware inventory</li><li>• Create and maintain spreadsheet for hardware payments</li></ul>

## Unit 6: Independent Path – 45 Days

### Key Learning

A student-led technology project can be both a benefit to the school and a learning experience for the student.

### Unit Essential Question

What can I create through the technology resources available that will benefit the students and/or staff of Central Columbia High School?

### Grade-level Standards Addressed in the Unit

3.4.12.C3 Apply the concept that many technological problems require a multi-disciplinary approach.

CC.3.6.11-12.B. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

CC.3.6.11-12.E. Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

CC.3.6.11-12.I. Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

#### Know

- the capabilities of the Mac, iPad and other technology resources

#### Understand

- Identifying a need and filling it requires planning and dedication to completing the task.

#### Do

- create goals and objects for a proposed technology project
- create a detailed list of resources needed, timeline, and
- evaluate the impact of the project