

# **A Dual Credit Chemistry Class Using a Blended Delivery/Team Teaching Approach**

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# Washington High School



- Located in Washington Court House, Ohio in Fayette County in Southwest Ohio
- 680 Students in high school
- Only 25 % attend college
- 88 % Graduation Rate



**SOUTHERN STATE**  
COMMUNITY COLLEGE



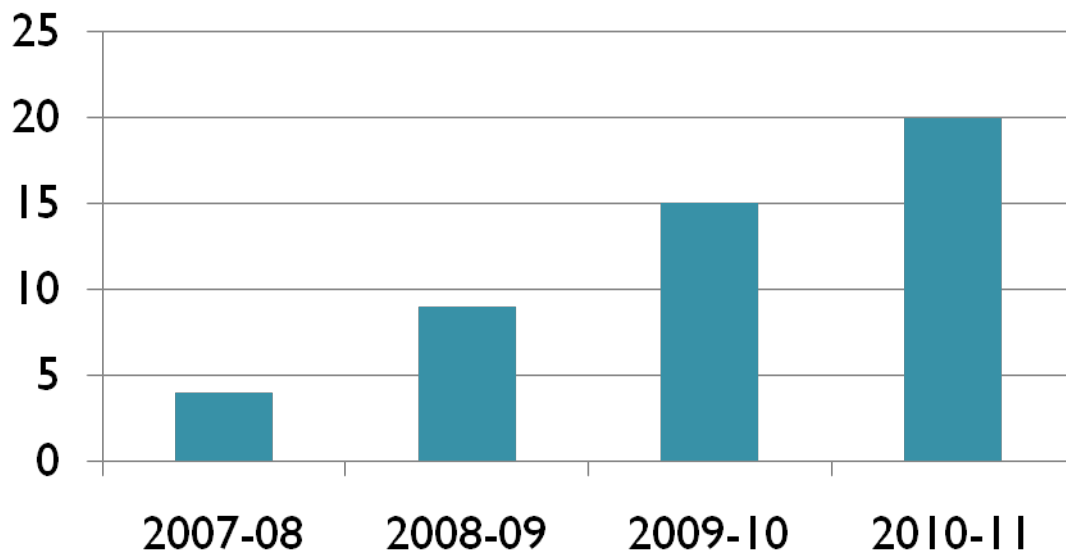
- 4 Campuses in Southwest Ohio
- 3000 Enrollment
- 4 of 5 Counties in Service Area are Appalachian



# Dual Credit Program in Chemistry

- Is considered to be an on-site PSEO (post-secondary enrollment option)
- Began by awarding *introductory level* chemistry credit

**Schools Participating**



# Features of Program

- Initial planning meeting with teacher input
- High school teachers required to attend a workshop
- Students come to college to do advanced lab using spectrophotometers and/or pH meters
- Program provides bus transportation and substitute
- Encourage implementation of final project





# Pilot Program (2009-10)

- Offered *college-level* chemistry using a blended delivery, team teaching approach
- Students received dual credit at no cost
- Students met at college 2 days/wk, at the high school 2-3 days per week. Used “flex Fridays”
- Used professor prepared tests
- Most labs occurred at college lab

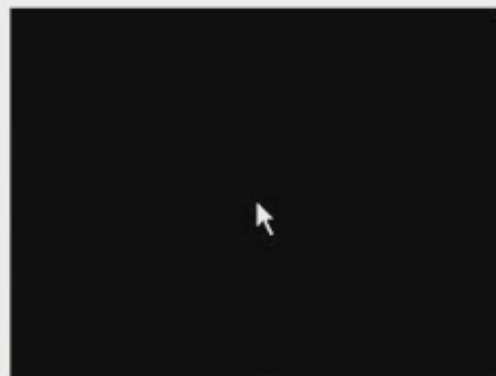
# Used Asynchronous Delivery of Online Portion

- Camtasia<sup>®</sup> was used to capture lectures:
- Two types of presentations:
  - PowerPoint lectures
  - Example problems
- High school teacher worked with students in recitation.

# Problem Solving

## Problem 23, page 197

A mixture of  $\text{CuSO}_4$  and  $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$  has a mass of 1.245 g. After heating to drive off all the water, the mass is only 0.832 g. What is the mass percent of  $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$  in the mixture?





# Final Project

- Students completed a final research project that involved analysis of soil samples from archaeological excavations at George Washington's home.

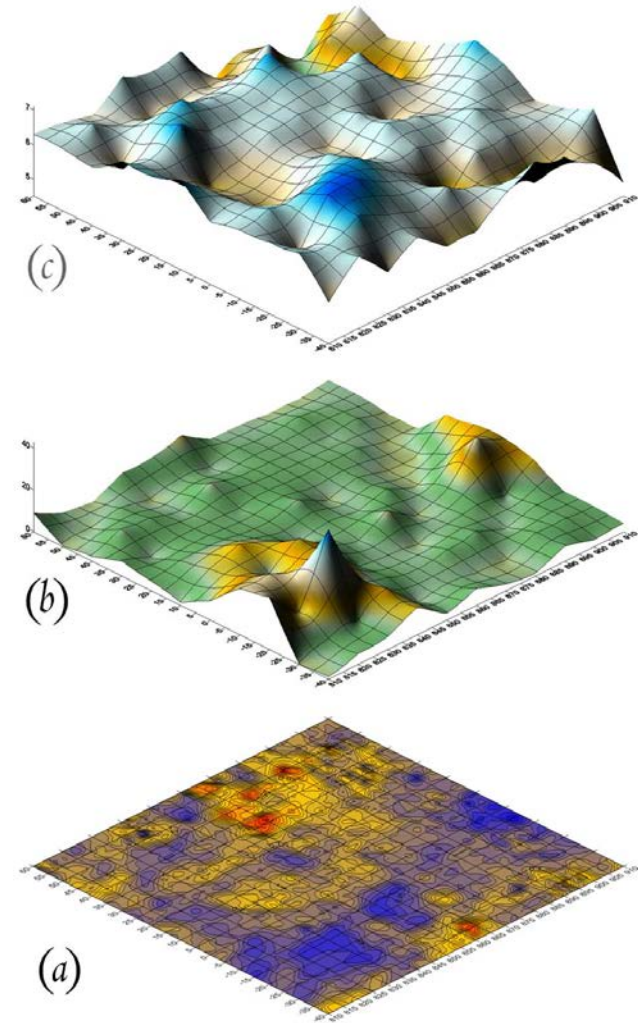


# Features of Project

- Students analyzed soils for extractable phosphorus and pH.
- Maintained a laboratory notebook of work.
- Submitted a final written report and an oral report or video documentary



- 3-dimensional graphs of data were created and submitted to the archaeologists at Mt. Vernon



# Advantages

- Students received dual credit at no cost
- Increases chances of success in college
  - 88 % vs 50%
- Advantages over AP
- Exposes students to the routine and rigors of college-level work
- Increases student self confidence
- Increases skills in technology
- Develops self discipline

# Disadvantages

- Scheduling
- High school teacher “too accessible”
- Distance between high school and college
- Requires maximum flexibility between college and high school instructors
- Role change of high school instructor
- Lab preparation

# What's Next?

- Improving quality of online lessons
  - Create interactive lessons using SoftChalk™
  - Allows for the creation of e-learning content without learning HTML



# Interactive Lessons

The screenshot shows a web browser window displaying an interactive lesson page. The page has a green header bar with the title "Properties of Liquids" in white text. Below the header, there is a navigation bar with a "Contents" dropdown menu, a "Page: 1 | 2 | 3" indicator, and a "score print all" link. The main content area is titled "Properties of Liquids" in green text, followed by a sub-section "Basic Observations" in green text. Below this, there is a paragraph of text: "The following lessons cover basic properties of liquids. There is a collection of videos followed by questions designed to test your understanding of the topic." A large black rectangular area, likely a video player, is positioned below the text. On the right side of the page, there is a sidebar with a "Contents" link and a section titled "On this Page" which lists "Properties of Liquids" and "Basic Observations". The browser's status bar at the bottom shows "Internet | Protected Mode: On" and a 100% zoom level.

**Properties of Liquids**

Contents ▼ Page: 1 | 2 | 3 score print all

**Properties of Liquids**

**Basic Observations**

The following lessons cover basic properties of liquids. There is a collection of videos followed by questions designed to test your understanding of the topic.

Contents

On this Page

- Properties of Liquids
- Basic Observations

Internet | Protected Mode: On 100%

# What's Next?

- How do we replicate program with other high schools?
  - Scheduling
  - Instructors
  - Distance
- Have high school teacher perform college-level labs in summer workshop

# Contact Information

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