



Video Lessons

Asynchronous & Distance Learning Methods

Resources Available At
<https://cec-code-lab.aps.edu/videolessons>

Introduction



- Asynchronous Learning
 - students learn the same material at different times and locations.
 - Out of School Projects
 - Independent Research
 - Prerecorded Lessons
 - Home Activities
- Synchronous Learning
 - Students learn at the same time with shared experiences.
 - Lecture
 - Laboratory activities
 - In Class Exercises (Individual and Group)

Video Lesson Formats



- Written (White Board Like)
 - Recommend Document Camera Style
- Software Based
 - Software Tutorial, Web Utility, Text Annotation etc.
- Slide Show
 - With or without Portrait Cam
- Demonstrations
 - Procedures, Labs, How-To's

Examples



1. H. Algebra II Graphing Lesson

[Graphing Variations. of $\tan(x)$ and $\sec(x)$]

- Software Based
 - Text Annotation
- Written
 - Diagrams and Solving

2. Robotics Programming Lesson

[Code 6 – String Operations Pt. 1]

- Software Based
 - text annotation with portrait cam
 - software demo with portrait cam

Examples at <https://cec-code-lab.aps.edu>

Video Lessons For Asynchronous Learning



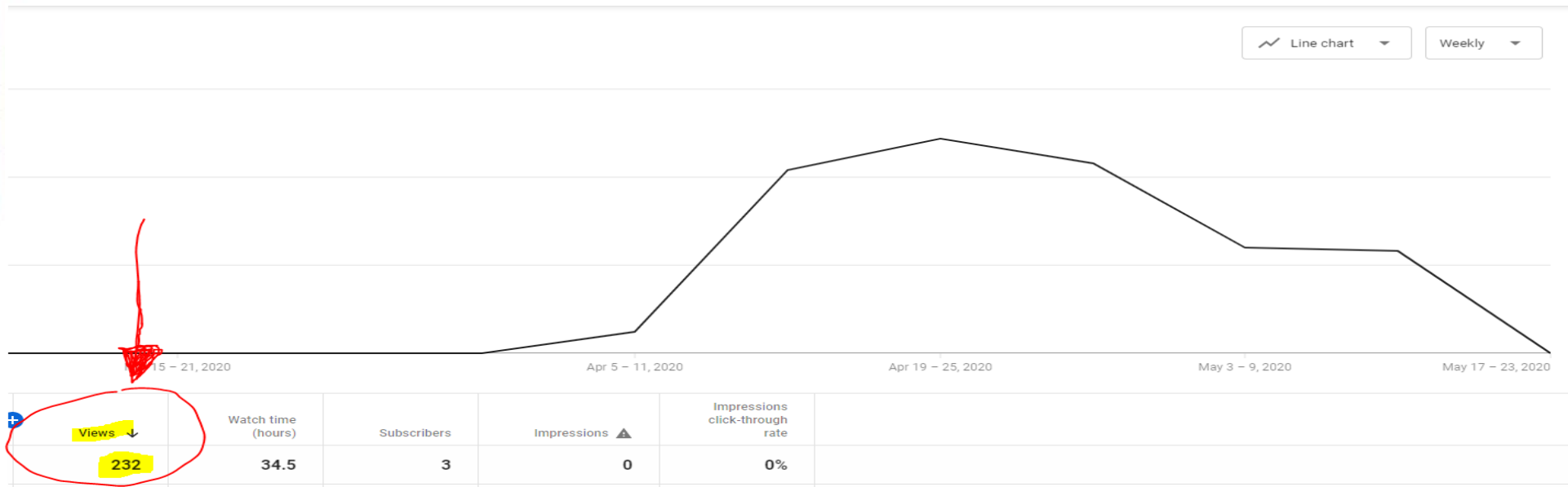
Pros

- Duration Flexible
- Edit Out Uneventful Segments
- Reusable
- Assignable
- Study Aid / Reference
- Substitute Aid

Cons

- Learning Curve
- Time Consuming
- Setup
- Impersonal

Effectiveness



Average View Duration: 8:55

Note: Because all lesson videos were unlisted, views were entirely from cec-code-lab redirects. I assume these views were nearly all students.

How-To



What Do I Need?
&
How Do I Record?

Software



- Screen Recording
OBS Studio
- Video Editing
OpenShot
- Screen Annotation
ZoomIt

Complete Software Tool-Chain is Available Free and Clean (no ads or malware)

Software Downloads Available at

<https://cec-code-lab.aps.edu/videolessons/software.php>

Software Tutorials Available at

<https://sites.google.com/aps.edu/mctechtips/home>

Hardware

- Cameras

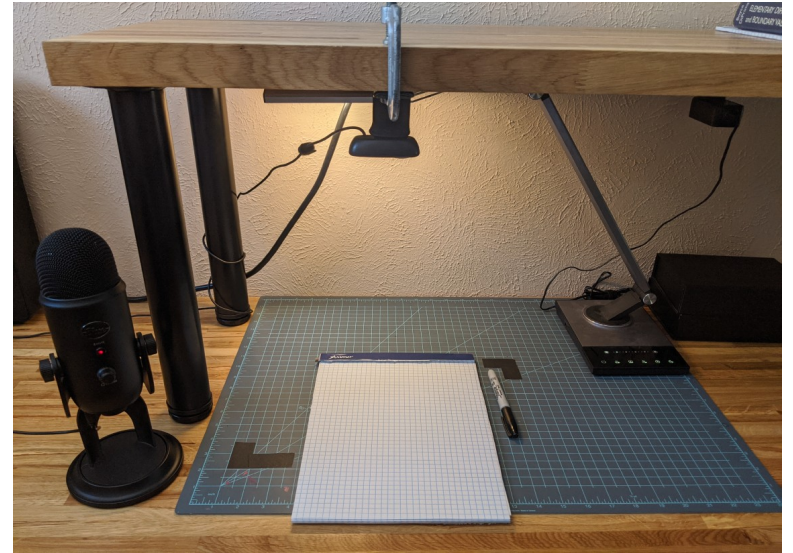
- Logitech C615
[used as portrait camera]
- Logitech C310
 - [used as document camera]

Many Laptops Feature Built-in Cameras

- Microphone(s)

- Blue Yeti

Web Cams, Laptops and Most Ear Buds also Carry
Microphones



Distribution

- Video Hosting
 - YouTube
- Link Post
 - cec-code-lab.aps.edu (my website)

Web Links (URLs) can also be posted on Synergy, Canvas, Google Classroom, Google Sites, in PDFs or in Emails



Live Tutorial



Standby, I Will Record and Edit a 'Toy' Lesson Live

Questions Thus Far?

Resources Reminder

Meeting Recording, Software Tutorials and Software
Downloads Available At

<https://cec-code-lab.aps.edu/videolessons>



Tips – Video



- 1280 x 720p @ 24-30 fps is sufficient
quality is sufficient and keeps file size down vs higher resolutions like 1920x1080p
- Use Large Fonts and Thick, Bold Writing Tools
video buffering will blur the image and can happen any time to your student
- Set Display Resolution to Match Output Resolution
Using lower resolutions makes fonts, icons and all screen elements larger and easier to see
- Cross-Fade or Fade-In / Fade-Out Your Edits
Don't be afraid to edit mundane, unneeded or unclear segments. A quick cross-fade is better than an unrelated tangent

Tips – Audio



- Boost Gain or Use A More Sensitive Microphone Instead of Projecting Your Voice
 - Straining your voice on a poor mic overloads it and makes you difficult to understand
- Audio Tracks Can be Separated From Video and Replaced or Deleted
- Software Noise Filters Cut Down White Noise and Distractions

Tips - General



- Recording Yourself At Your White-Board From A Distance May Not Make a Compelling Video Lesson
- Multiple Formats are Easy To Transition Between in Editing
- Split Lessons Into Multiple Recordings and Use Multiple Takes if Needed
- Imagine Your Classroom and Students