Advanced Placement Computer Science Principles (AP CSP) & Computer Science Applications (AP CSA)

ACES

- Mr. Arnell
- 3rd year teaching CSP, 1st teaching CSA
- 7th year teaching overall, previously taught Business

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- What is the Academy of Computer and Engineering Sciences?

- Projects & Problem-solving
- Links to careers
- 21st Century skills

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Prerequisites:

- Math 1 and 10th grade

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Class Structure

- Designed for those familiar with computers but little programming experience
- Lots of application in the form of projects
- Collaborative group work
- 2 major AP Tasks, interdisciplinary projects
- AP Exam at the end
- Languages: Scratch, Python, JavaScript, HTML/CSS

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- AP coursework is intense – there will be multiple assignments at any one time
- Enough time is given in class if on task 100% - Time management is crucial

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For ACES Students & Parents:

ACES Comp Sci Sequence:

Recommended – Introduction to Computer Science & Technology (ICST) taken in Middle School

- Year 1: CSE
- **Year 2: AP CSP**
- Year 3: AP CSA
- Year 4: Capstone

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AP CSP Students learn the basics of computer science practice including:

- Documentation and portfolio on a live website

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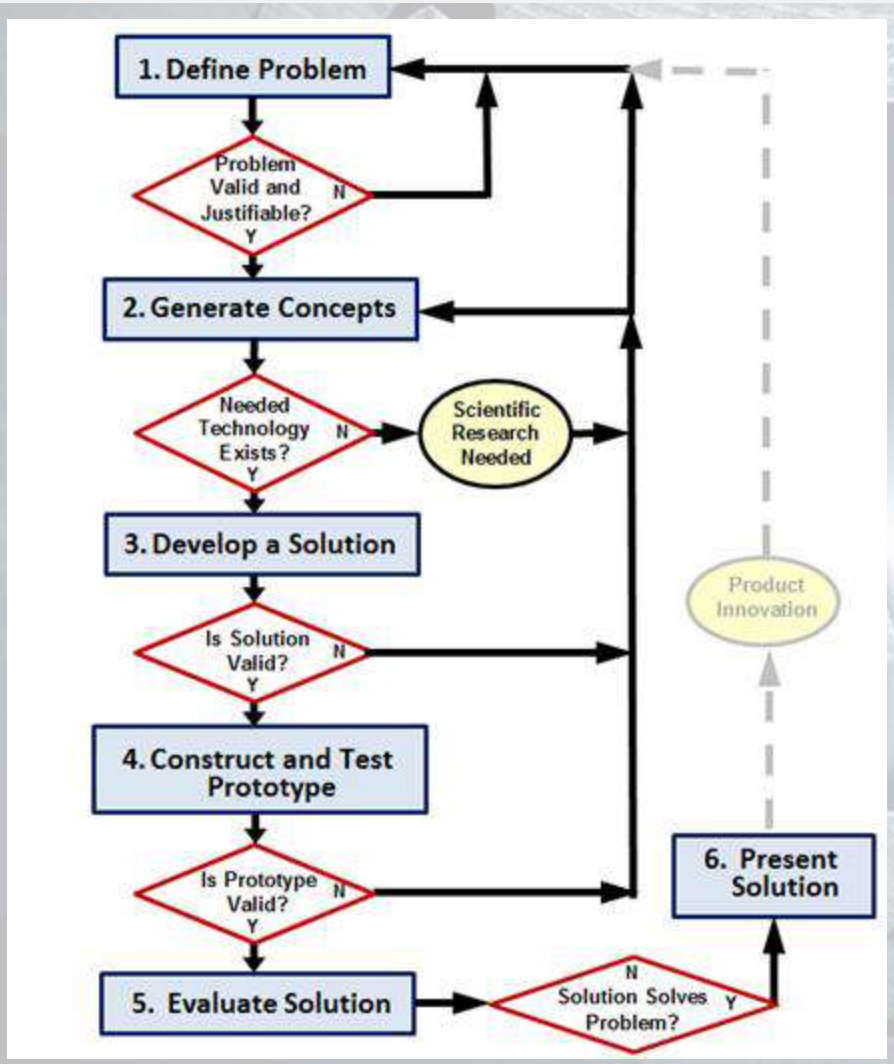

- Design process skills
- Working in teams
- Meeting design challenges

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- Website building
- Python programming
- Scratch and Code.org App Lab
- Github

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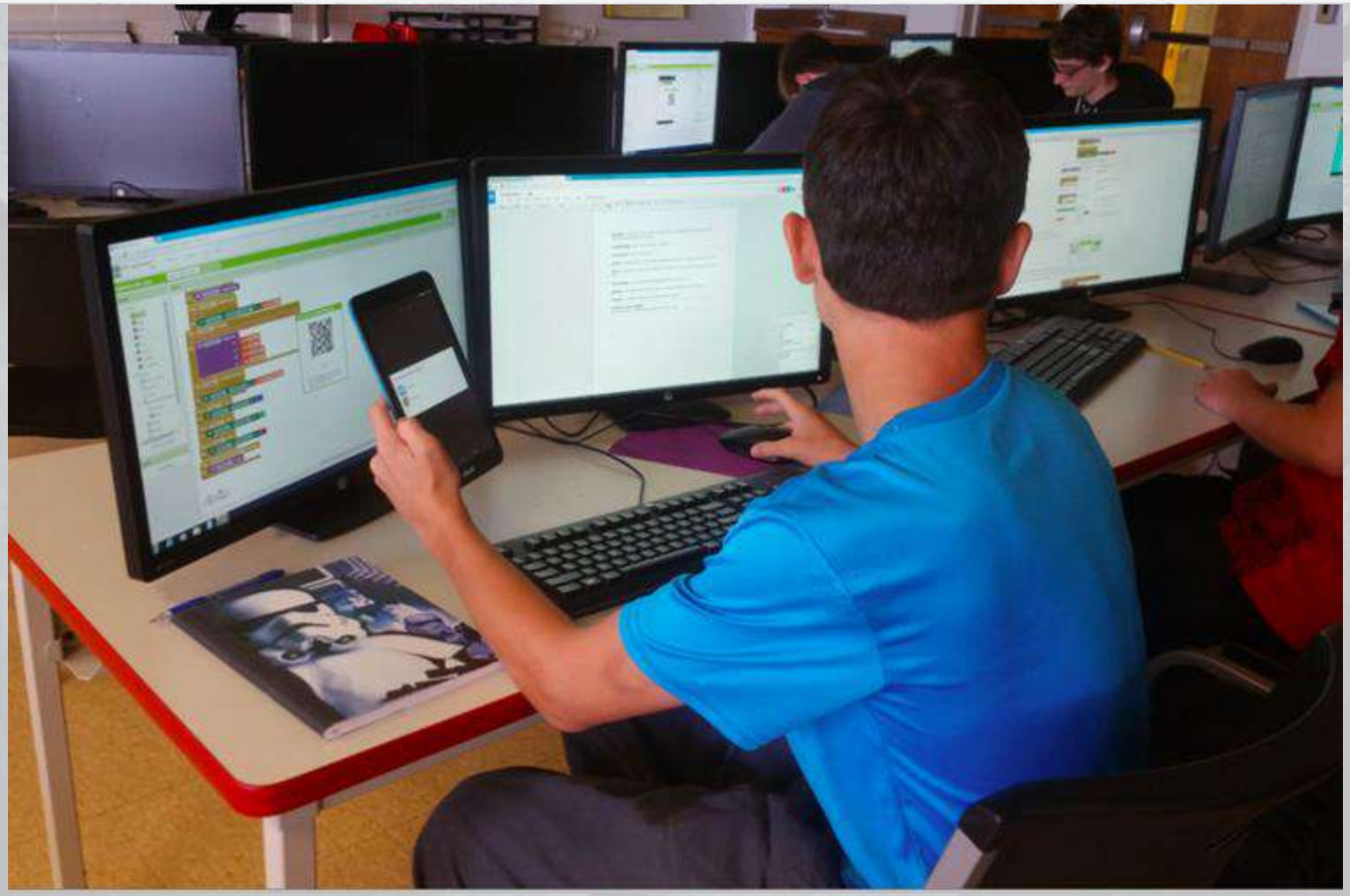

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- Use the **School Wires** website for info
- Use Google Classroom and Office365 links for curriculum
- For ACES: Look at the school website under Academics > Linked Learning > ACES

Advanced Placement Computer Science Applications (AP CSA)

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Prerequisites:

- Math 2 **OR** APCSP

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Class Structure

- Designed for students with prior programming experience or advanced math & computer skills
- Directed at those with college majors in: Computer Science, Electrical Engineering, Computer Engineering, Information Technology, Programming, Software Engineering, and Physical Sciences
- Lots of application in the form of projects
- AP Exam at the end

ACES

- AP coursework is intense – there will be multiple assignments at any one time
- Enough time is given in class if on task 100% - Time management is crucial

ACES

For ACES students & Parents:

ACES Comp Sci Sequence:

Recommended – Introduction to Computer Science & Technology (ICST) taken in Middle School

- Year 1: CSE
- Year 2: AP CSP
- **Year 3: AP CSA**
- Year 4: Capstone

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AP CSA Students learn the basics of object-oriented programming (OOP)

- Focuses on Java
- Learn the basics of professional programming

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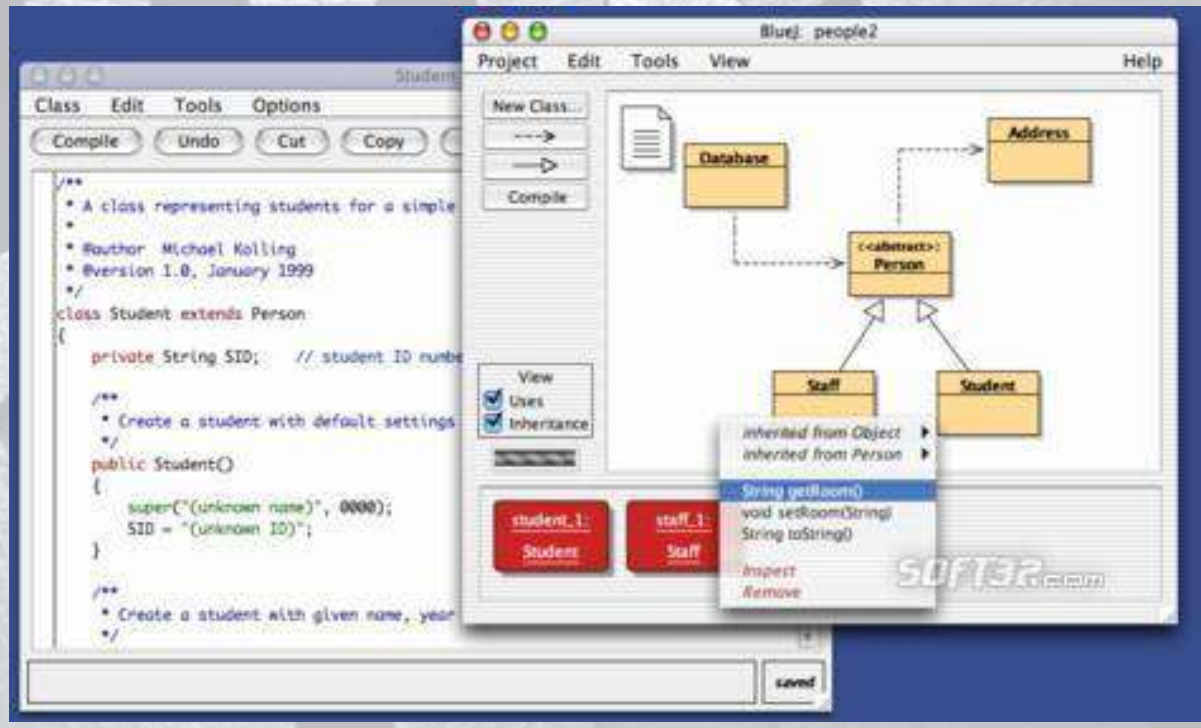
- Utilizes the well-known BlueJ learning IDE for Java



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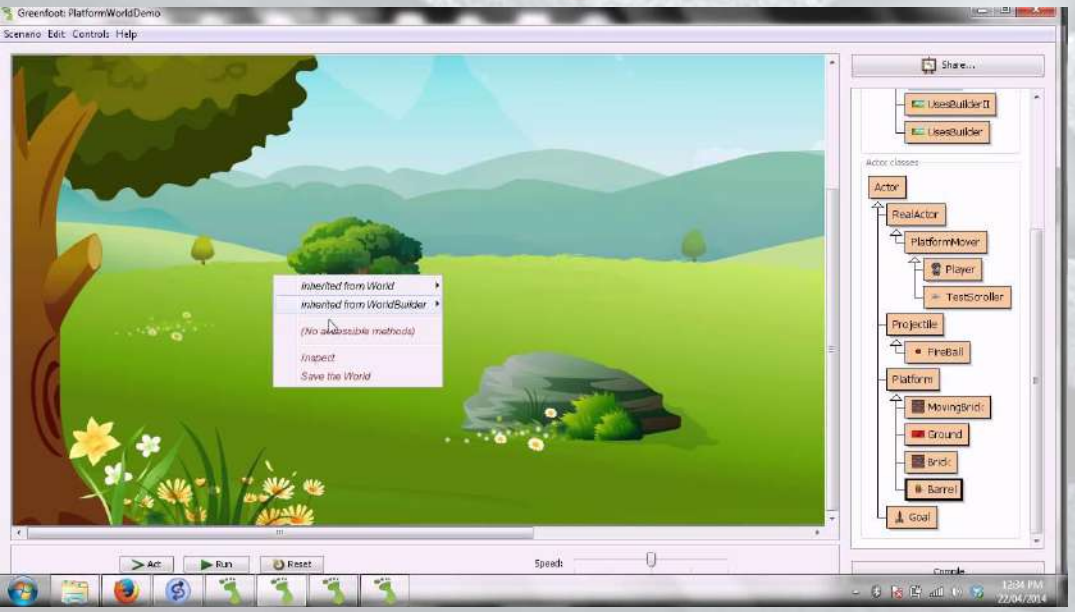

- Learn professional OOP using a game-design methodology
- Uses Greenfoot IDE – based on the widely-used BlueJ

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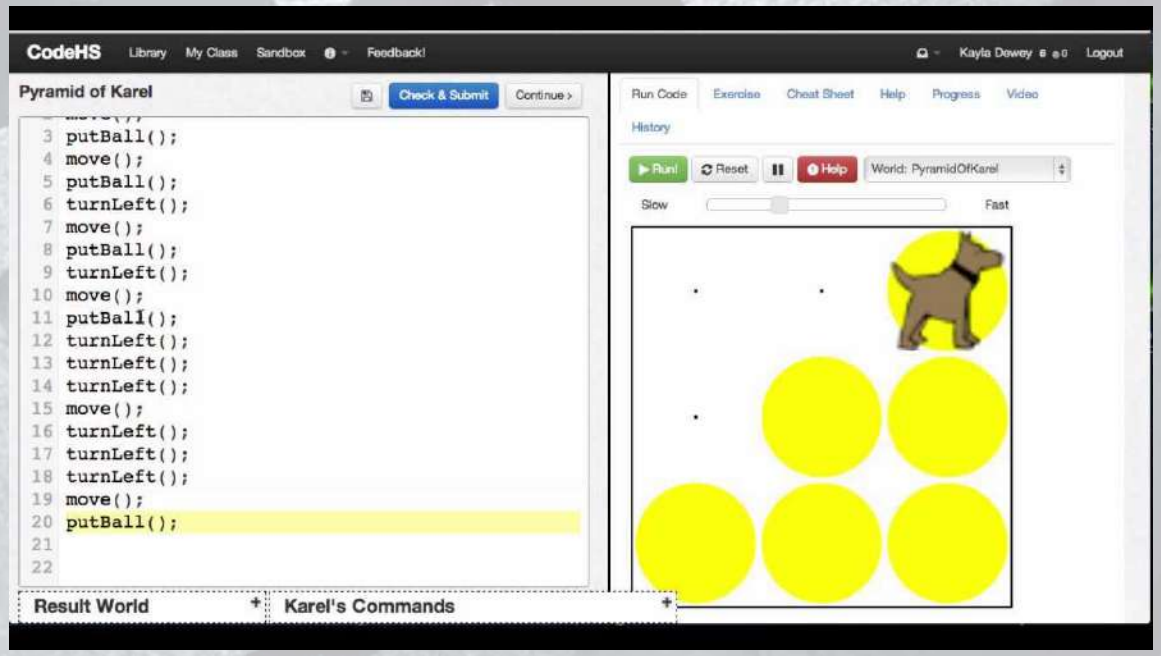
- CodeHS.com for curriculum and reference – AP CS for Java

CodeHS



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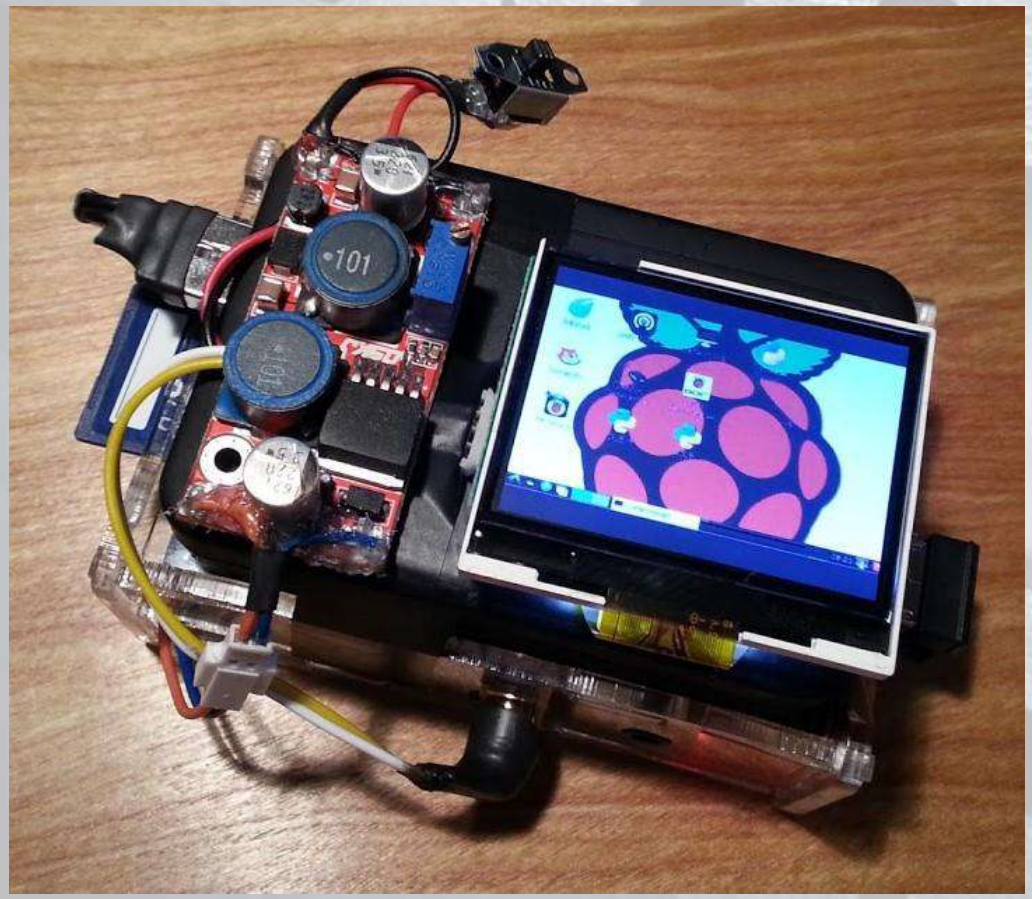

- Dabble in Raspberry PI projects
- Program a PI in Java

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