



Advanced Placement Mobile Computer Science Principles

Course Instructor & Professional Biography

Keith Zielen

Mr. Zielen is a product of and a supporter of Catholic Education. He attended St. Hedwig's Elementary School, Regis Academy Middle School, and Bishop O'Reilly High School, part of the Diocese of Scranton, in Northeast Pennsylvania. In 2007, Mr. Zielen graduated with a B.S.E. in Secondary Education – Mathematics from Penn State University. While teaching at Holy Redeemer High School in Wilkes-Barre, PA he earned a Masters of Education in Curriculum and Instruction from King's College before moving to the Pittsburgh area in the summer of 2012. He then took a teaching position at Achievement House Cyber Charter School and soon transitioned to Math Department Head and eventually Curriculum Coordinator. He returned to Catholic Education at Cardinal Wuerl North Catholic in 2015. Mr. Zielen supports the drama department as the moderator of set construction and as stage manager for the school musicals. He is also the moderator and sponsor for the Pennsylvania Junior Academy of Science.

Course Description

Mobile CSP is an Advanced Placement (AP) level introduction to computer science. As its name suggests, the course teaches about the principles of computer science from the perspective of mobile computing.

Mobile computing is an emerging field that focuses on mobile devices, such as tablets and smart phones. In this course we will use the mobile programming language, App Inventor, to program our Android tablets and smart phones. We will learn how to design and build mobile apps -- apps that are aware of their location, apps that send and receive text messages, apps that give advice and directions. The only limit on the types of apps you will learn to build is your own imagination. So, in this course you will learn *coding* or *computer programming*.

But computer science is not just about coding. So, we will also learn broadly about the fundamental principles of computer science. We'll learn about the potential and the limitations of computing and coding. We'll learn how to manipulate large data sets and about the importance of data in today's computing environment. We'll learn how the Internet works and how encryption is used to protect our Internet transactions. We'll learn about the positive and negative aspects of computing in today's society. And lots more.

For these broader computing concepts we will work within the College Board's curricular framework known as Computer Science Principles (CSP). This framework was developed by leading computer science educators from around the country with guidance from the College Board and with funding support from the National Science Foundation.

Course Resources

Mobile CSP Curriculum – Delivered through Schoology
Android Tablet (student responsibility – **course fee applies**)
MIT App Inventor 2.0 (web-based)
Blown to Bits (Abelson) (Provided Electronically)

Participation in the AP CS Principles Exam is required for this course

Big Ideas

- Creativity
- Abstraction
- Data and Information
- Algorithms
- Programming
- The Internet
- Global Impact

Computational Thinking Practices

- Connecting Computing
- Creating Computational Artifacts
- Abstracting
- Analyzing Problems and Artifacts
- Communicating
- Collaborating

The AP Computer Science Principles Curriculum Framework can be accessed at:

<https://secure-media.collegeboard.org/digitalServices/pdf/ap/ap-computer-science-principles-course-and-exam-description.pdf>

Course Units by Sequence

- Getting Started and Setup
- Introduction to Mobile Apps and Pair Programming
- Creating Graphics and Images Bit by Bit
- Exploring Computing: Animation, Simulation, and Modelling
- Algorithms and Procedural Abstraction
- Using and Analyzing Data and Abstractions
- Communication through the Internet

Student Assessments

As an advanced placement course, students are expected to complete lessons and assignments regularly in order to keep up with the pace of the class. As students are allowed to be more independent in the learning process, the nature of assessments changes accordingly. Students will be graded based on traditional tests and quizzes as well as the guided creation of mobile apps, research projects, readings, and reflections.

Tests/Quizzes – 30%

Performance Tasks – 20%

Creative Projects – 20%

Reflections – 10%

Self-Check Quizzes – 10%

Portfolio Maintenance – 10%

Grading

A – 93-100%

B – 85-92%

C – 75-84%

D – 70-74%

F – below 70%

Contact Information

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Classroom Procedures and Policies

Start of Class

1. The bell will ring to signal the scheduled start of class. At this time, be in your assigned seat with your class materials on your desk. Your daily class materials include your binder with loose leaf paper, a pencil, a red pen for checking homework, and your school approved TI-83/84 calculator.
2. Begin the warm-up activity or follow instructions given on the board or verbally. There will always be something to do independently while attendance is taken and administrative tasks are completed.
3. Once administrative tasks are completed and sufficient time has been allotted to finish the warm up activity, class will begin with the following prayer:

*O God and Father of our Lord and Teacher, Jesus Christ
Grant us diligence and attention to our vocations as student and teacher
That our knowledge and wisdom may increase to the blessing of our neighbor
Amen*

Classroom Expectations

- Be respectful toward the teacher and students in the room
- Be in proper dress code
- Do not use your cell phone
- Do not eat or drink (except water in an approved container)
- Raise your hand if you would like to answer or ask a question
- Respect the facilities, do not deface school property or leave garbage in the room. Pick up after yourself.
- Do not pack up early

You will hear me say throughout the year that, "You have the freedom to choose, but you do not have freedom from the consequence of those choices." Making choices that have positive consequences will be celebrated in this class just as much as making choices that have negative consequences will be punished. See the list of consequences and privileges for more detail.

Missing Class Time

- **BATHROOM:** Unless it is a true emergency, wait for an opportune time to use the bathroom. You are responsible for what you miss when you are out of the classroom, so I will strongly discourage leaving the room during our lessons.
- **LOCKER:** Students will not be permitted to leave the room to retrieve forgotten materials.
- **LATE TO CLASS:**
 - There are times when a teacher will need to hold you late after a class. When returning, do not disrupt the class that is in progress.
 - Arriving late to class without a late pass from a teacher will not be tolerated
- **SPORTS/FIELD TRIP/ETC:** If dismissed while a class is in progress, do not be a disruption to the lesson that is in progress. Quietly pack your belongings and exit the room respectfully. If you are dismissed, you are responsible for the work you missed. See the class website if you are unsure what was assigned.
- **ILLNESS:** If you are absent from school due to illness you will be given a short extension so that you can turn in your best work.

Be aware that you may miss part of a lesson when you are out of class. I do recall and summarize concepts throughout each unit, but you will need to be proactive to get caught up. Topics in a math class build upon one another, so please get the necessary help as soon as you can.

Schoology

- Our course content will be delivered online using the LMS (Learning Management System) Schoology. Students will be given an access code and will be asked to complete most tasks using this service. For parent access codes, please contact your teacher.

Grades

- **Tests/Quizzes – 30%** Paper based, administered during class.
- **Performance Tasks – 20%** *Explore* and *Create* tasks similar to those completed for the AP Exam
- **Creative Projects – 20%** Creating and innovating android applications
- **Reflections – 10%** Reflections on lesson prompts, readings, and activities
- **Self-Check Quizzes – 10%** A small number of questions about each lesson
- **Portfolio Maintenance – 10%** Weekly checks to ensure that reflections and projects have been updated

Gradebook

As a method of my own organization, when I enter a grade into the gradebook, I use a "suffix code" as a way to add a note to a grade. You may see the following:

- XX.01 – This means the grade can be made up
 - Ex: 0.01 as a test grade will (temporarily) average like a 0 but can be completed without penalty
 - I do this because it is important to make up missing work as soon as possible, and when students and parents see the impact a 0% can have on a grade, they are more aware that something needs to be completed.
 - Ex: 2.01 as a homework grade means I am awarding partial credit, but will allow resubmission
- XX.02 – This means that the grade is a result of a re-test or an allowed re-submission, replacing a prior grade
 - A note is usually added to the grade indicating the original score
- XX.03 – This means that the grade was adjusted in some way
 - Ex: 60.03 might mean that a test score was very low, but was adjusted because a student turned in an assignment to make up some of the lost points
- IP – "In Progress" – Similar to a 0.01, but does not average into a student's grade.
- EX – "Exempt" – Used to note when an assignment/quiz/test does not need to be completed
 - Ex: A transfer student may have EX in the gradebook for tests/quizzes administered before joining

Extra Help

- I am available after school on Tuesdays for our Math Café. You are welcome to ask questions about AP Mobile CSP if you are able to attend. Make sure you bring your laptop and android tablet.
- I regularly stay on other days of the week as needed, please ask in advance if you would like to meet with me and we can determine a common time to work.
- I'm usually quick to respond to emails (and remind messages). If you reach out, I'll do my best to accommodate.

Contacting Your Teacher

If you need to contact your teacher, please email kzielen@cwnchs.org. Emails come straight to my phone so it's the best option for a quick response.

We will also establish a text message based communication system using *Remind*. A separate sheet will explain how this service works.

Classroom Consequences and Privileges

	1 st Offense	2 nd Offense	Additional Offenses
Late to class	Warning, Email Home	Morning Detention	Administrative Detention
Failure to focus on the start-of-class activity	Warning, Email Home, Reduction of Grade	Morning Detention, Reduction of Grade	Morning Detention, Reduction of Grade, Behavior Plan Referral
Missing class materials	Warning, Email Home	Reduction of grade	
Out of dress code	Uniform violation notice submit to administration		
Cell phone use	Phone confiscated, email home	Phone confiscated, Morning Detention	Phone confiscated, Administrative Detention
Food/drink in classroom	Warning, Email Home	Morning Detention	Administrative Detention
Disrupting the class	Warning, Email Home	Morning Detention	Administrative Detention, Behavior Plan Referral
Disrespect toward students/teacher	Morning Detention, Email Home	Administrative Detention, Behavior Plan Referral	
Packing up early	Warning, Email Home	Morning Detention	
Cheating	Email Home, 0% for assignment/test, Morning Detention	Administrative Detention, 0% for assignment/test, Behavior Plan Referral	

*Morning detention is held the following day from 7:20AM until 7:50AM with Mr. Zielen

*Failure to attend morning detention will result in an Administrative Detention.

Privileges:

For having a "clean record" at the end of each quarter, a student may request one of the following rewards:

- An addition of 0.5-1.5 points to the end-of-quarter grade if close to the next letter grade. (e.g. a student with a 92% could be *bumped* up to 93% to earn an A as a reward)
- A positive note home/letter of recommendation
- Drop the lowest self check quiz grade for the recently finished quarter
- Alternative request if approved by the teacher