



# Middle School Course Catalog 2018- 2019

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Welcome to the 2018-19 School Year!  
21<sup>st</sup> Century Cyber Charter School

21<sup>st</sup> Century Cyber Charter School (21CCCS) provides students with an excellent opportunity to receive an education and develop the skills needed to succeed in higher education or a career. There are many reasons 21CCCS is unique.

- 21CCCS teachers are Pennsylvania State certified in their subject area(s).
- Students are supported by significant, real-time contact with their teachers and staff.
- Virtual classrooms provide a high level of quality student-to-teacher interaction.
- Curriculum is developed and modified by the 21CCCS teachers and curriculum team, which focuses on student achievement.
- The 21CCCS Board of Trustees is composed of Intermediate Unit Executive Directors, Superintendents, from Bucks, Chester, Delaware, and Montgomery Counties, as well as, parent representatives.

Student success at 21CCCS is dictated by the following:

- Student attendance, commitment, and work completion
- Support from the educational team
- Regular communication between students, parents/guardians, and the educational team

21CCCS staff and administration are dedicated to helping students achieve success. Working closely together will ensure a terrific school year!

## **VISION STATEMENT**

21<sup>st</sup> Century Cyber Charter School strives to be the best school with successful students, engaged families and passionate educators working together to reach our full potential.

## **MISSION STATEMENT**

21<sup>st</sup> Century Cyber Charter School is committed to providing a student focused cyber education in an encouraging, flexible and innovative environment where students and families are engaged in a community with caring and dedicated educators.

At 21<sup>st</sup> Century Cyber Charter School, we develop our Pennsylvania certified educators to deliver an online, rigorous, mastery based, standards aligned curriculum to prepare students to be productive, contributing members of society.

School Administration

Mrs. Monica Frank – Middle School Principal

Mrs. Heather Messenger – Assistant Principal

School Counselors

Students assigned by first letter of last name (-)

Ms. Kate Wark – (A-G)

Mrs. Lisa Moynihan – (H-R)

Ms. Ashley Cooke – (S-Z)

School Nurse

Megan Tarr

## **Course Schedule and Deadlines**

21CCCS full-credit classes run over the course of the full year schedule, beginning with the first student day and ending on the last student day. The school year is divided into four quarters. Half-credit classes will run the length of one semester. A typical student schedule is comprised of 6 credits.

Classes will close at 4:00 PM on the last day of each quarter. The end-of-quarter dates can be found on the Board-approved calendar. All work submitted by 4:00 PM will be included in the quarter grade calculation. No extensions beyond the close of classes will be granted. Deadline expectations are as follows:

- A student has a minimum of 45 days and a maximum of 90 days to complete a half credit course.
- A student has a minimum of 90 days and a maximum of 180 days to complete a one-credit course.

Students must submit their work prior to the last day of the quarter/semester. This allows them ample time to seek assistance from their teachers on assignments with which they are struggling. Students will not have access to their classes after 4:00 p.m. on the last day of the quarter/semester.

All 21CCCS and 3<sup>rd</sup> party classes will close on the last student day at 4:00 p.m. in accordance with the school calendar.

Grade 6:

To build student time management skills during the transition process for students new to middle school mid-quarter deadlines will be in place to ensure students stay on track with work completion. Students who complete half of the work assigned for the quarter prior to mid-quarter can still move on to the work associated with the second half of the quarter. Students who do not submit the required assignments by the mid-quarter deadline will not be permitted to submit them late.

## **Program Placement & Course Selection**

### **Middle School**

All students in grades 6-8 are required to complete the core subjects of math, language arts, social studies, and science each year. Students must pass math, language arts, and one other core class (social studies or science) to be promoted to the next grade level. 21CCCS strongly suggests that middle school students keep a regular schedule and have the support of their parents/guardians.

Middle school students are scheduled according to the courses appropriate to follow their prior year's courses and current grade level. Students will be scheduled for the next most appropriate math course, regardless of grade level.

### **Adding/Dropping Courses**

Students may add or drop a course(s) within the first ten school days of a student's enrollment in a class. It is the responsibility of the student to contact the School Counseling Department in writing if he/she wishes to add or drop a course.

Requests will be honored at the discretion of the school. If a student withdraws from a course more than 10 days after the scheduled start of the class or his enrollment in the class, he/she will receive an "F" on both his/her report card and final transcript.

## **Pathways**

All 21CCCS middle school core subject classes are designed with pathways, each with a different level of rigor. Pathway selections must be made during the course selection process; however, based upon student performance during the course and with the approval of the principal, pathways can be changed if necessary based upon data. Performance on state assessments is also used to determine the appropriate pathway.

### **Intermediate Pathway**

Intermediate level pathways are designed for the majority of our students whose skills and past performance is on grade-level.

### **Advanced Pathway**

Advanced level pathways are designed for students whose skills, past performance, and interests demonstrate that they can successfully complete increasingly challenging academic work. Advanced work may include research and rigorous projects that require extensive reading requirements and analytical thinking. This level requires the student to be responsible, mature, and have strong study skills that enable the student to pursue independent learning.

## **Special Education**

The Progress Monitoring curriculum for grades 6, 7, and 8 is available for special education students. This course is aligned to the Pennsylvania Academic Standards and individual student IEP goals. Students will have live class and assignments in Moodle. All lessons align directly to individualized IEP goals.

## **Electives**

6<sup>th</sup> and 7<sup>th</sup> grade students have the opportunity to choose three electives each year. 8<sup>th</sup> grade students may choose three electives or opt to enroll in only one elective and our Introductory Spanish course for a semester. All middle school students must complete at least one of each of the elective choices (art, music, technology education, study skills, and family and consumer science) during their middle school years here at 21CCCS. Students may enroll in any particular elective topic for a maximum of two quarters each year.

## **Notification for Sports Team Eligibility**

Students who are members of a sports team in their home school district must continue to meet grade requirements to be a part of the team. In accordance with PIAA eligibility rules for student-athletes, students must be passing at least 4 full-credit subjects by Friday of each week. If a student fails to meet these requirements, he/she will lose participation eligibility until the necessary requirements are met. Once this has occurred, the student may resume participation on the team one week following when requirements were met.

If a school requires weekly grade updates for its athletes, it is the responsibility of the student to request such information each week. Students should submit their requests weekly to [guidance@21cccs.org](mailto:guidance@21cccs.org). Students should also include the name and email address of the person at their local school district who should be in receipt of their grades.

## **Off Campus Courses - Physical Education Courses**

Students will meet their Physical Education requirements using “off-campus” physical activities; paired with an online component that deals with developing healthy habits and creating a lifestyle full of life-long

fitness. Off-Campus PE activities must be completed for more than 3 hours each week with a certified instructor. Sports such as karate, gymnastics, dance, etc. can be used for the physical activity portion of this class. Thirty (30) hours of Off-Campus instruction is required for each 0.25 credits.

Off-Campus PE requires pre-approval from the 21CCCS Off-Campus PE teacher during the time of scheduling (see procedure below). When counting hours, only instructional time amounts towards the 30 hours; games/practice on own time does not count. For example, a gymnastics instructor providing direct instruction to a gymnast is acceptable, but time spent alone practicing will not be counted.

Procedure for using off-campus sources of instruction:

1. A student should request Off-Campus PE when scheduling classes for the year.
2. A student should then seek approval from the 21CCCS Off-Campus PE teacher, by contacting the main office at 484-875-5400 and asking for the phone number or email address of the coordinator and discussing the sport and requirements.
3. Next, the student should send a copy of their Off-Campus instructor's certification via fax or email to the Off-Campus PE teacher.
4. Once the certification is in place and the program has been approved, the student will need to complete the online component of the course work and submit weekly activity reports.

At the end of the course, the instructor should assign a grade. Credit will be awarded once the work and hours have been achieved and verified by the Off-Campus PE teacher, so long as the course meets school requirements. All students earning Off-Campus PE credit must still complete online academic work aligned with PDE standards to earn credit for this course. Off-Campus PE forms will be provided once the course has been approved.

## Course Sequence

### 6<sup>th</sup> Grade

- Language Arts 6 (1 unit)
- Math Principles (1 unit)
- Science 6 (1 unit)
- Ancient History Through Modern Times (.5 unit)
- PE/Health 6 (.5 unit)
- Guidance (.25 unit)
- Choice of three electives (.25 units each):
  - Family and Consumer Sciences
  - Art
  - Study Skills
  - Music
  - Technology Education

### 7<sup>th</sup> Grade

- Language Arts 7 (1 unit)
- Pre-Algebra (1 unit)
- Science 7 (1 unit)
- World Cultures (.5 unit)
- PE/Health 7 (.5 unit)
- Guidance (.25 unit)
- Choice of three electives (.25 unit each):
  - Family and Consumer Sciences
  - Art
  - Study Skills
  - Music
  - Technology Education

### 8<sup>th</sup> Grade

- Language Arts 8 (1 unit)
- Algebra 1A (1 unit)
- Science 8 (1 unit)
- American History I (.5 unit)
- PE/Health 8 (.5 unit)
- Guidance (.25 unit)
- Choice of Introduction to Spanish (.50 unit) and one elective (.25 unit) or three electives (.25 unit)
  - Family and Consumer Sciences
  - Art
  - Study Skills
  - Music
  - Technology Education

**All students must enroll in at least 6 units.**



## COURSE OFFERINGS

### Core Courses

#### **Language Arts 6\*** - Grade 6 (required) - 1.0 unit

The purpose of this course is to build a solid foundation in the reading, writing, vocabulary, and grammar skills that students will find essential throughout their lives. Students will also learn writing techniques, research skills, and test-taking skills. The class will explore many aspects of literature: fiction, nonfiction, poetry, media, art, the novel, and speech. Students will use the five steps of the Writing Process (prewriting, drafting, revising, editing, and publishing). The course will include readings, discussion boards, webcasts, research, group work, and presentations.

Course Materials: *From the Mixed-Up Files of Mrs. Basil E. Frankweiler*, *Walk Two Moons*, *Escape: The Story of the Great Houdini*, and *The Schwa Was Here*.

#### **Language Arts 7\*** – Grade 7 (required) - 1.0 unit

The purpose of this course is to familiarize students with elements of literature from various genres. Students will also learn writing techniques, research skills, and the rules of proper grammar usage. The class will explore many aspects of literature: fiction, nonfiction, poetry, media, art, drama, the novel, and speech. Students will use the five steps of the Writing Process (prewriting, drafting, revising, editing, and publishing). The course will include readings, discussion boards, webcasts, research, group work, and presentations.

Course Materials: *The Crossover*, *Phineas Gage: A gruesome but true story about brain science*, *The Wednesday Wars*, *A Long Walk To Water*, *No Fear Shakespeare: The Tempest*, and *The Boy Who Harnessed the Wind*.

#### **Language Arts 8\*** – Grade 8 (required) - 1.0 unit

The purpose of this course is to build a solid foundation in the reading, writing, and grammar skills that students will find essential throughout their lives. Students will also learn writing techniques, research skills, and the rules of proper grammar usage. The class will explore many aspects of literature: fiction, nonfiction, poetry, media, drama, the novel, oral traditions, and speech. This course will teach both narrative and persuasive writing, and the elements of each of these styles. The course will include discussion boards, lecture, class discussion through live webcasts, research, collaborative group work, presentations, unit exams, and formal written essays.

Course Materials: *Brown Girl Dreaming*, *The Book Thief*, *Wonder*, *Pax*

#### **Math Principles\*** – Grade 6 (required) - 1.0 unit

Topics will include exponents, factors, fractions, ratios, proportions, percents, probability, displaying data, and graphing using the coordinate plane. Throughout the course, students will incorporate math into real-world situations. This class includes online lessons, projects, practice, quizzes, exams and live online teacher-led sessions.

Course Materials: TI 30 Calculator (provided by the school)

\* Classes with an asterisk next to the name have Pathways built into the curriculum.

**Pre-Algebra\*** - Grade 7 (required) - 1.0 unit

This course will provide a foundation for Algebra I. Course topics include: real numbers and linear equations, linear inequalities, factoring, fractions, graphing and some elements of geometry. Students will study rational number forms, integers, measurement, and draw conclusions about problem solving. They will be asked to provide written explanations that illustrate his or her thinking and process for solving problems. After completing the course, students will be able to use: integers and expressions to solve problems, decimals in equations, rational numbers, exponents, scientific notation, ratios, proportions, and percents. They will also be able to solve: equations, inequalities, right triangles, graph equations, and find area and volume of various solids. This class includes online lessons, projects, practice, quizzes, exams and live online teacher-led sessions.

Course Materials: TI 30 Calculator (provided by the school)

**MS Algebra I A \***- Grade 8 (required) - 1.0 unit

This course builds upon pre-algebra skills by expanding on knowledge of variables or the “unknown.” Students extend their knowledge by using abstract thinking to understand mathematical concepts. Topics include radicals, greatest common factor, least common multiple, absolute value, exponents, operations with polynomials, linear equations, systems of equations, inequalities, and functions. Students are introduced to and assessed on the topics through various lessons, activities, practices, tests, and projects. This class includes online lessons, projects, practice, quizzes, exams and live online teacher-led sessions.

Course Materials: TI 84 Calculator (provided by the school)

**Science 6\*** - Grade 6 (required) - 1.0 unit

This course is a hands-on, active experience. The sixth grade science course employs the scientific method in many contexts as students design and carry out experiments to answer a variety of questions. Throughout the course, students actively investigate patterns of living things, cells and microbes, matter, chemical changes, and temperature. In the area of life science, students will study cells, bacteria, plants and animals. In earth science, students will study the spheres, weather, and space. In physical science, students explore matter, the Periodic Table, and carbon in detail. This course was designed to follow and reinforce the Biology, Physical Science, Chemistry, Physics, and Earth Science Standards that are provided by the Pennsylvania Department of Education (PDE).

**Science 7\*** - Grade 7 (required) - 1.0 unit

This science course is designed to provide 7th grade students with a survey of sciences, which will include parts of Biology, Physics, Earth and Space, and the Nature of Science. Students will learn that science is everywhere and that there are many connections between each of the sciences and the real world through a variety of activities and assignments, including discussion boards, interactive activities, small group work, and writing assignments.

**Science 8\*** - Grade 8 (required) - 1.0 unit

This course is designed to provide 8th grade students with a solid foundation of basic Biology, Earth and Space Sciences, Physical Science and Chemistry concepts and skills while preparing them for a high school science course. Students will master these skills while relating them to real life situations through a variety of activities and assignments, including discussion boards, small group work and a graphing, researching and writing assignment.

\* Classes with an asterisk next to the name have Pathways built into the curriculum.

**Ancient History through Modern Times\*** - Grade 6 (required) - 0.5 unit

This middle school World History course gives students the opportunity to explore history's beginnings, world religions, and how civilizations impacted not only other civilizations in the ancient world, but the modern world today. Ancient Rome, Greece, Africa, India, and China are explored. This will occur through activities, forum discussions, geography studies, webcasts, and real-world connections to today's current events.

**World Cultures\*** - Grade 7 (required) - 0.5 unit

World Cultures will examine major themes in geography, culture, and history throughout the course of the year. Students in this course will examine major themes of geography, such as location, place, movement, and regions. This course will also take close looks at the interaction between humans and their environments and the regions they call home. This relationship will allow students to learn more about human geography by examining ethnic groups, cultures, and the diverse history of other countries. This course will utilize current event articles, close reading, group work, web research, and presentations to explore these different aspects of the World Cultures curriculum.

**American History I\*** - Grade 8 (required) - 0.5 unit

America has a long and fascinating history. This class will take students to the very beginning of its journey. From the explorers that landed in North America, to the founding fathers of our nation, this course will challenge students to take on different perspectives and determine the cause-and-effect relationship of America's early development. American History I will take students through the trials and tribulations of seeking independence, to the struggles of launching a new nation. As a conclusion to the class, students will investigate the growth and impact that slavery had on America's economical development, setting the stage for causes of the Civil War. Students will develop their skills as critical thinkers as they explore primary and secondary documents. This course will include reading, writing, research and speaking assignments.

**Guidance 6** - Grade 6 (required) - 0.25 unit

This course will explore a variety of guidance topics including the following: bullying, cyber citizenship, conflict resolution, decisions and choices, and career and college exploration.

**Guidance 7**- Grade 7 (required) - 0.25 unit

This course will explore a variety of guidance topics including the following: bullying, cyber citizenship, balancing responsibilities, coping skills, and career and college exploration.

**Guidance 8** - Grade 8 (required) - 0.25 unit

This course will explore a variety of guidance topics including the following: choosing your destiny, relationships, conflict resolution, and college and career planning.

**PE/Health 6** - Grade 6 (required) - 0.5 unit

This course is designed to help guide students in making decisions that meet his or her family goals and values. We encourage students to talk with family members in addressing the following topics: understanding health and wellness, taking charge of your health, physical activity and fitness, nutrition, personal health and consumer choices, personal safety, and the environment and your health. Weekly fitness activities and logs are used to cover concepts, and guide student choices and workouts.

Course Materials: *Teen Health Course 2*, MS PE Kit

\* Classes with an asterisk next to the name have Pathways built into the curriculum.

**PE/Health 7 - Grade 7 (required) - 0.5 unit**

Building on the themes from PE/Health I, this course covers the following topics: understanding health and wellness, taking charge of your health, physical activity and fitness, nutrition, personal health and consumer choices, personal safety, and the environment and your health. Weekly fitness activities and logs are used to cover concepts, and guide student choices and workouts.

Course Materials: *Teen Health Course 2*, MS PE Kit

**PE/Health 8 - Grade 8 (required) - 0.5 unit**

Building on themes from PE/Health I & II, this course provides a more in-depth look at the following topics: understanding health and wellness, taking charge of your health, physical activity and fitness, nutrition, personal health and consumer choices, personal safety, and the environment and your health. Weekly fitness activities and logs are used to cover concepts, and guide student choices and workouts.

Course Materials: *Teen Health Course 2*, MS PE Kit

### Electives

**Art I - 0.25 unit**

This class offers students the opportunity to explore visual expression through a wide variety of materials. Students will contemplate such questions as the choices artists make when they create and how materials affect art outcomes. Personal response and creativity are fostered and encouraged. The course will include weekly learning activities and assignments. Creating, sharing and forming opinions are the most important aspects of developing creative thinking. In this class the artist within will be nurtured, challenged, and strengthened.

Course Materials: Art Kit-Middle School

**Art II - 0.25 unit**

This class offers students the opportunity to explore art around the world. Come explore how cultures preserve identity through the creation of functional and non-functional works of art! Ancient techniques such as weaving and geometric design will promote critical thinking skills. Students will learn to use art media in new and fun ways. Including the creation of their very own sketchbook, weaving, and calligraphy. This course will take students on a journey of the world and the art that represents it, providing opportunity for students to expand their artistic talents.

Course Materials: Art Kit-Middle School

Prerequisite –Art I

**Art III - 0.25 unit**

This course will create a structure that allows students to reflect upon contemporary artists and their influences. Students will explore contemporary artists and their 21st century approaches to design. An art kit with materials will provide the typical creative outlet. Including sketchbook creation, painting, drawing, photography and much more. New technologies will be introduced, including computer aided design programs and photo editing software. The course will be based in studio work reflecting specific fields of visual and practical art. The course will involve research, design, execution and abstraction of architectural art.

Course Materials: Art Kit-Middle School

Prerequisite –Art II

**Introduction to Spanish - Grade 8 - 0.50 unit**

The purpose of this course is to provide an introduction to Spanish as a world language for beginners. The main goal for this course is for students to acquire a culturally contextualized working knowledge of and essential skills in level one Spanish, including the use of present tense verbs, introductory conversation skills, and basic vocabulary. This course aims at developing the student's use and understanding of the target language through listening, speaking, reading and writing, as well as building a solid foundation in preparation for more advanced studies. This course will include readings, discussion boards, webcasts, written and oral assignments, quizzes, unit exams, projects, and a final exam so that students may interact with the language in a variety of ways.

**Music I - 0.25 unit**

This course will explore the world of music in a variety of ways. Students will engage with different types of music by listening, analyzing, and forming and expressing opinions on different aspects of music. They will create their own music with the software program Garageband.

Course Materials: Garageband Application

**Music II - 0.25 unit**

Music II continues the journey through the world of music that begins in Music I. Students in this course will explore concepts and elements of music in a variety of ways. Students will also create original music using skills that review and build upon what they learned in Music I.

Course Materials: Garageband Application

Prerequisite – Music I

**Music III - Grade 8 - 0.25 unit**

This course introduces American musical genres and the major artists of each genre historically. Students will survey the emergence of popular musical forms and the roots of each form beginning at the early 1900s. Students will learn about the major contributors to different genres. Students will create their own music using computer software.

Course Materials: Garageband Application

Prerequisite – Music II

**MS Family & Consumer Science I - 0.25 credit**

Family and Consumer Science I allows students the opportunity to achieve skills in practical areas of life such as careers, design and sewing and building self esteem/self-confidence/ and self image. Students will learn about interpersonal relationships and the skills needed to enhance independent living. They will learn some of the skills necessary to balance family and career. Students will have the opportunity to examine various careers in the unit on Career Pathways. Here, students will explore various careers in preparation for future FACS classes. The unit on design and sewing will introduce students to the world of fashion and textiles. Students will also have the opportunity to create some of their own unique designs. The course includes readings, discussion boards, webcasts, research, group work, projects, and presentations.

### **MS Family & Consumer Science II - 0.25 credit**

Family and Consumer Science II will allow students to investigate areas such as Teen Life. In this segment students will examine healthy expression of emotions. This will include some STEM activities on how the body reacts during different emotions. Included in this unit are positive ways to deal with daily teenage life. Students will learn the difference between peers, and different types of friendships. Each unit will be dedicated to a specific and practical skill that students will encounter in life. Students can learn child development and care skills, allowing them to apply these skills to babysitting. The textile and design unit will incorporate STEM technology and the movement of nanotechnology into the world of design. Students will explore the scientific theories behind these new breakthroughs. They will have the opportunity to explore interior design and integrate some technological advances into their homes. The course includes readings, discussion boards, webcasts, research, group work, projects, and presentations.

Prerequisite – MS Family & Consumer Science I

### **MS Family & Consumer Science III - 0.25 credit**

Family and Consumer Science III covers the basic concepts of nutrition, time management, decision making, responsible care of natural resources, and family life. The time management and decision making unit help students learn the best strategies to achieve their academic goals and make responsible decisions in all aspects of their lives. Students will survey their importance in maintaining the earth and how they can do their part to assure a clean environment. During the unit on families, students will examine their own family dynamic and how families have changed since the colonial times. They will also look at the importance of families in our current society. The Food Unit, engages the student in the process of cooking as well as understanding the importance of healthy and balanced meals. This course also teaches students the significance of correct food handling and food preparation. The course includes readings, discussion boards, webcasts, research, group work, projects, and presentations.

Prerequisite – MS Family & Consumer Science II

### **Study Skills I - 0.25 credit**

This course will focus on online learning strategies to help students achieve success in their new middle school cyber environment. Students will learn to organize their computers and schoolwork to achieve positive results. How to use lessons in conjunction with assignments will be addressed. In the Reading unit, students will learn the necessary skills to read their lessons and take notes. Students build skills in test taking strategies and active listening in a cyber setting and how to apply the appropriate strategy when needed. The course will include readings, class forum discussion boards, research, group work, projects, and presentations.

### **Study Skills II - 0.25 credit**

This class will focus on short term planning, managing stress, how to study, finding the time and place to study, and critical thinking skills. In the units on finding a time and place to study students will learn the importance of designating a workspace for study and how to organize it. In this same unit they will learn how to effectively use short term planning to assure everything is completed on time. The unit on critical thinking will give students an opportunity to practice the skills reading academic text and understanding this material at an in depth level. This unit will also focus on how to study and what a student must do to be successful. The importance of goal setting and how to achieve those goals will be addressed. Students will also examine ways to deal with stress. They will learn healthy ways to express and manage the stresses of life. The course includes readings, class forum discussion boards, interactive web activities, research, group work, projects, and presentations.

Prerequisite – Study Skills I

**Study Skills III - 0.25 credit**

This class will help students develop the necessary skills to grow and achieve academically. In this course students will explore units such as time management to aid in successfully completing assignments in an appropriate timeframe. Students will also learn various strategies to read the text in depth and assimilate this information with the class material. They will examine forms of note taking and how to effectively apply them. Research strategies will also be contained this class. Effective ways to use the 21CCCS Cybrary will be introduced. These skills will help students as they move into high school and will be introduced to more detail oriented research based projects. The course includes readings, class forum discussion boards, interactive web activities, research, group work, projects, and presentations.

Prerequisite – Study Skills II

**Technology Education - Computer Science for Innovators and Makers - 0.25 unit**

Project Lead the Way Computer Science for Innovators and Makers is a nine-week unit of study. This unit will allow students to discover computer science concepts and skills by creating personally relevant, tangible, and shareable projects. Throughout the unit, students will learn about programming for the physical world by blending hardware design and software development.

**Technology Education - Design & Modeling - (required during middle school) - 0.25 unit**

Project Lead the Way Design & Modeling is a nine-week unit of study. Students discover the design process and develop an understanding of the influence of creativity and innovation in their lives. They are then challenged and empowered to use and apply what they've learned throughout the unit to design an inclusive playground.

Prerequisite –Technology Education – Computer Science for Innovators and Makers

**Technology Education - App Creators- 0.25 unit**

Project Lead The Way App Creators is a nine-week unit of study. The unit introduces students to the field of computer science and the concepts of computational thinking, through the design and coding of mobile apps. Students are challenged to be creative and innovative, as they collaboratively design and develop mobile solutions to engaging, authentic problems. Students experience the positive impact of the application of computer science to society as well as to other disciplines, particularly biomedical science.

Prerequisite –Technology Education – Computer Science for Innovators and Makers