



2020-2021 CURRICULUM CATALOG



ABOUT US

Pointful Education is a leader in innovative learning options for today's students, offering a robust catalog of CTE and Elective Courses on emerging technologies and future-focused careers. Backed by a team of passionate educators, Pointful Education's vision is to bridge the skills gap earlier in a student's life by preparing them for careers that may not even exist today. Driven by their mission to inspire life-long learners, Pointful Education equips students with the relevant skills, knowledge and confidence to pursue THEIR unique passions.

Pointful Education online curriculum offers pathways to prepare students for industry certifications, engage in career exploration, learn about forthcoming technologies, and examines the impact of such topics on our society and economy. Designed for secondary and post-secondary students, educators and families utilize Pointful Education curriculum for CTE and career preparation programs, virtual and blended learning, and homeschooling.

COURSES

Adobe Illustrator Certification Course
Adobe InDesign Certification Course
Adobe Photoshop Certification Course
Aeronautics & Space Travel
Augmented & Virtual Reality Applications
Career Exploration in Dentistry
Career Exploration in Finance
Career Exploration in Healthcare
Cloud Technologies and the Internet of Things
Construction: Fundamentals and Careers
Drones: Remote Pilot Certification Course
Entrepreneurship & Small Business Certification Course

Fundamentals of Bitcoin & Cryptocurrency
Fundamentals of Blockchain & Cryptography
Introduction to Artificial Intelligence
Introduction to Education & Teaching
LEED Green Associate Certification Course
Robotics: Applications and Careers
Smart Cities: Technology and Applications
Startups and Innovation
The History of Gaming and Esports
Transportation Technologies
Wearable Technology Innovations

INSTRUCTIONAL DESIGN



Pointful Education develops and publishes purposeful curriculum with an intentional student-focused design and structure to ensure an optimal learning experience. Our courses are aligned with the [Quality Matters](#) rubric and structured in a consistent, research-based format including the following pedagogical concepts.

- [Understanding by Design](#)
- [Growth Mindset](#)
- [Video-Based Learning](#)
- [Problem-Based Learning](#)
- [Project-Based Learning](#)



MULTIPLE LEARNING MODALITIES

Students engage in a variety of instructional modalities with multiple opportunities to grasp and understand the concepts and topics presented in each lesson.

- Lesson readings, text transcriptions, and module summaries reinforce and expand on the concepts and topics presented.
- Videos, images, expandable tables, charts and vocabulary activities, and additional resources introduce and emphasize context.
- Interactivities such as drag-and-drop, matching, polling, roll-overs, and visuals enhance learning.

ASSESSMENT VARIETY

Students engage in a variety of assessment types in order to demonstrate mastery of learning objectives.

- Participation is a graded component that uses asynchronous student engagement analytics to assess completed readings, videos, and engagement in lesson activities.
- Concept checks throughout each module allow for formative assessment of specific learning objectives.
- Reflections and Discussions allow for formative reflection and support of brain-based mastery of the learning objectives.
- Projects are opportunities for students to demonstrate hands-on application of knowledge gained throughout the courses. These teacher-graded assessments support student creativity and choice.
- Module quizzes and final exams allow students to demonstrate mastery of learning objectives through auto-graded questions, multiple choice, true/false, and teacher-graded short-answer.
- Grading rubrics are embedded into the course for teachers and students.

ACCESSIBILITY

We understand that students learn differently and need varying levels of support. We take measures to ensure our Courses are accessible to all learners.

- Courses are section 508 and WCAG 2.1 (Web Content Accessibility Guidelines) compliant.
- Alternate text and video transcriptions ensure all students have access to instruction.
- Alternate lesson activities allow for student agency in choosing a preferred path.

COURSE OVERVIEW



ADOBE ILLUSTRATOR: CERTIFICATION COURSE

This course introduces students to the Adobe Illustrator and prepares students to take the ACA Certification Exam on Illustrator. Students will get an insight into what it is like working in the graphic design industry. Students will learn everything from absolute basics like navigating Illustrator to performing complex tasks like managing colors, drawing, creating illustrations, and much more. The course contains guided video tutorials, hands-on projects, and step-by-step resources that help students learn how to work in Illustrator.

ADOBE INDESIGN: CERTIFICATION COURSE

This course introduces students to the world of Adobe InDesign and prepares students to take the ACA Certification Exam on InDesign. Students will get an insight into what it is like working in the print and digital media publishing industry. Over 10 modules, students will learn everything from absolute basics like navigating InDesign to performing complex tasks like creating multi-page documents, applying effects, and even creating original artwork. The course contains guided tutorials, do-it-yourself projects, and great resources that will help students practice and learn how to work in InDesign.

ADOBE PHOTOSHOP: CERTIFICATION COURSE

This course prepares students to demonstrate expertise in Adobe's Photoshop software and take the ACA Certification Exam on Photoshop. Students will learn through engaging and interactive content, projects and practice exam items aligned to the learning objectives outlined by Adobe's exam specifications. Students will leave this course with career-ready, real-time skills in one of the most popular software programs in the world!

AERONAUTICS AND SPACE TRAVEL

This course introduces students to the history and near future of space travel. Students will explore the possibilities of moon bases, Mars colonies, and visiting the outer planets in our solar system and their moons. Students will also discuss important ethical and legal issues around space exploration, such as asteroid mining and war in space. The course gives an expansive view of the technologies, science, and theories that will make far-fetched dreams into realities during the student's lifetime.

AUGMENTED AND VIRTUAL REALITY APPLICATIONS

Separating hype from reality is hard... especially in the fast-growing and evolving space of augmented and virtual reality (AR/VR). Recent advances in technology has allowed AR/VR systems to become extremely sophisticated and realistic. This course introduces students to the technologies that underpin AR/VR systems. Then the course walks through 5 applications of AR/VR and how they will change and impact numerous aspects of our lives and the economy. Students will also learn about and discuss the risks and side effects of these systems, including health, privacy, and ethical implications.

CAREER EXPLORATION IN DENTISTRY

This course introduces students to the exciting and varied career opportunities in the dentistry profession, from dental assistant all the way up through oral surgeon. Students will review the history of dentistry globally and in the U.S., and will learn key dental terminology. The course will introduce the roles and tasks done as well as skills and education required of nearly every member of the dental staff. Students will gain an understanding of what it takes to perform each position, and how they work together.

COURSE OVERVIEW



CAREER EXPLORATION IN FINANCE

This course introduces students to the challenging and lucrative world of finance. While “Wall Street” may still get a bad rap after the 2008 financial crisis, finance careers still remain highly sought after and can be highly rewarding. The course reviews key financial terms and examines various groups, positions, and roles within financial institutions. Students will learn about resumes, interviews, and networking. Students will also discuss ethics on Wall Street and the role of finance within society.

CAREER EXPLORATION IN HEALTHCARE

This course introduces students to the exciting and varied career opportunities in the health care industry that will be in demand in their future! The course will introduce the roles and tasks, identify education and skills needed, identify responsibilities of roles which support or supervise their role, analyze legal and ethical responsibilities, limitations, and implications for each of these professions.

CLOUD TECHNOLOGIES AND THE INTERNET OF THINGS

First, we had the internet of computers. Then with the advent of email and social media, along with mobile technology, it became the internet of people. Today’s world is increasingly becoming the internet of things. With advances in battery power, sensors, and computer chips, more and more devices are being connected to the internet. This will allow them to be monitored, controlled, and used more effectively for people and businesses. This course will examine the trends and opportunities surrounding the Internet of Things. Students will learn about the technologies, hardware, and software that underpin the Internet of Things. The course will examine a variety of end-market applications in our homes, businesses and cities. Finally, students will learn about the many career opportunities that the Internet of Things will enable.

CONSTRUCTION: FUNDAMENTALS AND CAREERS

This course introduces students to the evolving industry of construction! In addition to building on standard concepts such as technical skills, project planning, and regulations, students will learn about the variety of career possibilities within construction. They will also explore the entrepreneurial side of construction and discover what it takes to start and run your own business in this field. Finally, the course will look towards the future and analyze trends in green materials, energy efficiency, and technology to determine how these will impact the homes we build and live in.

DRONES: REMOTE PILOT CERTIFICATION COURSE

This course prepares students to take the Federal Aviation Administration’s Part 107 exam, which is essential to becoming a commercial drone pilot. The field of unmanned aerial vehicles is growing rapidly, as the opportunities to use them for search and rescue, photography, recreation, inspection, and many others continue to multiply. Students will learn the critical facts to prepare for the test’s topics, which include: regulations, airspace & requirements, weather, loading & performance, and operations. The course will conclude with a look at the most promising careers in the field of drones.

ENTREPRENEURSHIP AND SMALL BUSINESS CERTIFICATION COURSE

This course prepares students for the Entrepreneurship and Small Business Certification exam. This certification has been designed to test concepts around starting and managing a small business. These topics include entrepreneurship, evaluation of opportunities, preparation to start a business, operation of a business, marketing, and management of finances. Students gain insights and understand real-world applications that will not only allow them to succeed in passing the certification exam, but also in successfully starting, working in, or running a small business.

COURSE OVERVIEW



FUNDAMENTALS OF BITCOIN AND CRYPTOCURRENCY

Upon completion of this course, students will understand bitcoin, including its history, development, and context within the modern global economy. Students will learn the basic cryptographic principles that underlie bitcoin, and gain confidence by demonstrating strong security principles in storing and transaction bitcoin. Key principles such as mining, wallets, and hashing will be introduced. And finally they will be familiarized with the nascent industry of digital currencies and how they function.

FUNDAMENTALS OF BLOCKCHAIN AND CRYPTOGRAPHY

Blockchain seems to be the latest buzzword that the business world is talking about. But what is it? And why should a high school student care? This course will seek to answer those questions. It will strip away the layers of complexity and sophistication to help students understand the key concepts of the blockchain. The course will introduce and discuss areas where blockchain has the greatest potential.

INTRODUCTION TO ARTIFICIAL INTELLIGENCE

This course teaches what every student should know about Artificial Intelligence. AI is a fast-moving technology with impacts and implications for both our individual lives and society as a whole. In this course, students will get a basic introduction to the building blocks and components of artificial intelligence, learning about concepts like algorithms, machine learning, and neural networks. Students will also explore how AI is already being used, and evaluate problem areas of AI, such as bias. The course also contains a balanced look at AI's impact on existing jobs, as well as its potential to create new and exciting career fields in the future. Students will leave the course with a solid understanding of what AI is, how it works, areas of caution, and what they can do with the technology.

INTRODUCTION TO EDUCATION AND TEACHING

This course is designed to prepare future educators for the classroom they will inherit! It starts with a history of education and how blended, adaptive, and personalized learning are coming to the forefront in learning. It then explores new and emerging technologies, along with their current and future impact on education. Throughout the course, students will explore a wide range of career possibilities in the education field and evaluate both the promises and pitfalls of technology in education.

LEED GREEN ASSOCIATE CERTIFICATION COURSE

This course introduces students to the LEED process. LEED, or Leadership in Energy and Environmental Design, is the global standard for green building certification. Throughout the course, students will gain an understanding of the various components of green building. The theme of sustainability and sustainable construction is woven throughout each module both in terms of physical environment and as it pertains to LEED certification.

ROBOTICS: APPLICATIONS AND CAREERS

It seems like many elementary to high school robotics courses are focused on coding a simple robot to move its mechanical arm up and down. This course, in contrast, teaches students what a robot is and how it relates to other key technologies such as artificial intelligence and machine learning. Then the course examines 10 applications of robots and how they will change and impact various aspects of our lives and the economy. Will robots simply steal our jobs, or will they be a tool that will create new opportunities and even free humans to use our creativity and curiosity to their full potential? Students will grapple with this and many other questions as they explore this vital, future-focused subject.

COURSE OVERVIEW



SMART CITIES: TECHNOLOGY AND APPLICATIONS

This course will provide students with an overview of smart cities. The course will begin by providing a foundational explanation of what constitutes a smart city and why they are beginning to pop up around the globe. With a firm understanding of what a smart city is, the majority of the course will focus on various aspects of them such as energy, transportation, data, infrastructure, mobility, and Internet of Things devices. The course will conclude with an analysis of careers related to smart cities.

STARTUPS AND INNOVATION

Students hear a lot of contradictory advice in life. On one hand, they may hear something like “Follow your dreams. Pursue your passion and the money will come!” On the other hand, they may hear something completely opposite, like “Most startups fail! It’s much safer to get a safe, steady job.” So which side is right? Given the massive changes to the economy and society, the skills of entrepreneurship are going to be critical in building a lasting career. The entrepreneurial mindset of searching for opportunities, creating value, and solving pain points will always be valuable. And this mindset applies not just to starting a business, but in any organization that someone is a part of: school, established companies, or non-profits. In this course, students will explore how to use this mindset to create the next world-class startup.

THE HISTORY OF GAMING AND ESPORTS

In this course, students will learn about the technologies and design principles that have been the foundation of the development of video game technology over the last 50 years. Students will examine and discuss the impact of video games on culture and the economy. Students will learn about the current gaming and e-sports landscape, including strategies and techniques of top teams and individuals. This course will also discuss the risks and dangers of video games and understand how to set appropriate time and content parameters. Finally, the course will identify career paths and opportunities for those who are passionate about gaming.

TRANSPORTATION TECHNOLOGIES

This course introduces students to the newest and most cutting edge futuristic transportation technologies out there. Students gain familiarity with the history of transportation development and understand a framework with which to evaluate new transportation modes. Then the course dives into 10 different technologies on the horizon. Students examine the technologies, the pros and cons of each mode, and explore potential career paths in these emerging fields.

WEARABLE TECHNOLOGY INNOVATIONS

From hearing aids to pedometers to smart watches, humans have made and worn devices to overcome physical deficiencies, count their steps, and communicate. With the continue miniaturization of chips and sensors, combined with increasing sophistication of artificial intelligence, wearable technology has proliferated into countless end-markets. This course will introduce students to wearable technologies and the components and software that make these technologies possible. The course will also evaluate several applications of wearable technologies in various industries. Finally, the course will examine and discuss the implications of wearable technology, including its pros and cons, and potential implications to our health, privacy, and society.