

INNOVATION CENTER COURSES 2018-2019

Creative Engineering 1a: Robotics: CTE83100A - One Semester Elective - 0.5 Credit - Open to all 9-12th graders (Course Fee: \$20) - Fall 2018

Instructor - Axel Reitzig - reitzig_axel@svvsd.org

Learn what it takes to be a technology entrepreneur by working with a team to design, build, test and market an original robot for the 2018 BEST Robotics Competition. This class is not only for techies; it's also for those of you interested in business, marketing and entrepreneurship. Participating on this team will require some meetings during Summer 2018 as well as weekend meetings (about 4-6 hours a weekend) during the season (early September to mid-October). The Innovation Center Robotics team has won awards every year the past three years. Come and join us for another successful season.

Questions? Email Mr. Reitzig at reitzig_axel@svvsd.org

Creative Engineering 1b: Robotics: CTE83100B - One Semester Elective - 0.5 Credit - Open to all 9-12th graders (Course Fee: \$20) - Spring 2019

Instructor - Axel Reitzig - reitzig_axel@svvsd.org

No Prerequisite - Section A is not required to sign up for Section B

Embodied cognition is the joining of artificial intelligence with robotics. This class will explore this new and growing field by using IBM's Watson with NAO humanoid robots, Raspberry Pi and other hardware. We'll work with experts in the field to develop real-world applications for these technologies. Some experience with programming and/or robotics is helpful, but not required.

Questions? Email Mr. Reitzig at reitzig_axel@svvsd.org

Comp TIA: IT Fundamentals: CTE83120 - One Semester Elective - 0.5 Credit - Open to all 9-12th graders, Fall & Spring

(Students who pass the class will pay for their own certification test - \$90)

Instruction - Thom Ingram - ingram_thom@svvsd.org

IT Fundamentals introduces students to the Information Technology field; including computer hardware & software support, customer service, networking, security, and computer design. Student learn within operating systems such as Windows, Linux, Apple and Android. Students who succeed in this class will be ready to take the CompTIA IT Fundamentals certification.

Apple Certified Mac & iOS Technician: CTE83110 - One Semester Elective - 0.5 Credit - Open to all 11-12th graders (and exceptional 9th & 10th graders with prior Apple product knowledge) - Fall & Spring

(Students who pass the class will pay for their own certification test - \$60)

Instruction - Thom Ingram - ingram_thom@svvsd.org

ACMiT is designed for students who have experience with computers, MacOS and iOS. It offers the chance to gain knowledge and skills specific to Apple hardware and software. Those who succeed in this class will be ready to take the Service Fundamentals, ACMT & ACiT certification tests. Students passing these official Apple certifications will be eligible to work on the Innovation Center Tech Team. Graduating certified students will work with Apple representatives to find placement in tech jobs at Apple and on college campuses.

Ice House Entrepreneurial Program: CTE80100 - One Semester Elective - 0.5 Credit - Open to all 11-12th graders - Fall & Spring

Instructor - Jeffrey Lund - lund_jeffrey@svvsd.org

Concurrent enrollment with FRCC as **BUS102 Entrepreneurial Operations**

The Ice House Entrepreneurial Student Success Program inspires and engages students with the perseverance and determination of an entrepreneurial mindset needed to succeed academically, in business and in life. This program expands upon "Who Owns the Ice House?" and 'Eight Life Lessons from an Unlikely Entrepreneur' by encompassing student success concepts in the context of an entrepreneurial mindset. The program provides for experiential learning beyond the classroom, making connections, understanding business concepts, and building relationships that can support students throughout college and beyond.

Developing Augmented & Virtual Environments: CTE 81100 - One Semester Elective - 0.5 Credit - Course Fee \$20 - Fall & Spring

Open to all 9-12 graders

Instruction - Thom Ingram - ingram_thom@svvsd.org

This course allows students to develop for augmented and virtual reality. The curriculum is designed by Google and HTC, and uses both Unity and Unreal software to design these environments.

The mixed reality field is currently touted as the next computing platform by companies including Sony, Microsoft, Facebook, Google and HTC, as well as several startups located both here in Boulder County, across the country, and the world. Being able to develop VR and AR environments gives each student a cutting edge knowledge-base in an industry that is in need of talented staff. The average starting salary for a developer in this field is \$75,000 a year. Learning in this field allows students to build technical literacy and express creativity in an immersive engaging computer aided design field.

TriCaster Certification Program: CTE 82100 - One Semester Elective - 0.5 Credit - Open to all 11-12th graders - Fall & Spring

(Students who pass the class will pay for their own certification test - \$150)

Instructor - Jeffrey Lund - lund_jeffrey@svvsd.org

Becoming a NewTek TriCaster Certified Operator is one skill that can help students work within the studio and television world. The course focuses on benefits of certification to include: get hired for better jobs, proving knowledge and skill base, differentiate students in the job field, generate customer interest in future business and services, be recognized by industry professionals, able to work on university campuses that utilize film and TV services, and become qualified to teach TriCaster and 3Play Skills to others. Students will engage in operating a TriCaster system within a studio environment.

The following courses are being taught at specific schools:

BIOM 101: Intro to Biomedical Engineering: CTE85110 - One Semester Elective - 0.5 Credits - Taught at Longmont and Frederick

BIOM-101 will provide 1st semester BME students the opportunity to explore the field of biomedical engineering, get excited about what their future as a BME could look like, and make informed decisions about their chosen degree program. The survey-based, 1-credit course will expose students to how mechanical engineering, chemical/biological engineering, and electrical engineering principles can be applied to current biomedical challenges. The course will also introduce current research efforts at CSU, BME career opportunities, team dynamics, and accessing/reading academic literature - all of which will be valuable as the student progresses through their program of study.

Intro to Engineering: CTE84110 - One Semester Elective - 0.5 Credits

Open to 9th Graders only - Available to be taught at any high school, however instructors from Erie, Longmont, Frederick, Niwot and Mead helped to develop the course.

This 9th grade course introduces students to the principles and foundations of engineering across different disciplines. Students will take part in at least 2 team-based projects, learning project management and engineering skills concurrently while developing solutions to both teacher- and student-directed challenges. This course will provide foundational learning for more advanced engineering coursework in grades 10-12 and beyond.