

Collaboration with South Metro Fire Rescue

Cherry Creek Innovation Campus

Centennial, CO



COLORADO
Department of Education

The Cherry Creek Innovation Campus (CCIC) was built around the vision of “Innovation through Collaboration” with the goal of revolutionizing the student experience in college and career preparedness. Through collaboration with the community and local industry partners, students are afforded the opportunity to reach their highest potential while taking risks, persevering, reflecting, exploring and finding the place where their passions can intersect with their skills sets and their education.

The collaboration was first pitched by members of South Metro Fire Rescue’s (SMFR) EMT Training Team. The “design challenge” was then presented to a small group of students from the CCIC Product Design II class, including Mason Maynell, Joshua Moore, Gabriel Rosales, and Jacob Sathoff. Mike Degitis, Cherry Creek Innovation Campus project coordinator, managed the initiative. In fall of 2020, Paul Foulk, EMS Training Supervisor for South Metro, tasked the students to help conduct better training for performing field based cricothyrotomies, a means of establishing an airway for patients in an emergency. CCIC students were able to 3D print a half dozen true-to-scale tracheas for SMFR to utilize in their trainings.

Due to the success of the prior projects in collaboration with the Cherry Creek Innovation Campus, Paul Foulk decided to bring one more idea to the students in the STEAM pathway. Students have been tasked with creating another EMT training unit, this one utilized in training for intraosseous operations. This year, CCIC students have truly embodied the CCIC belief statements more than ever before. In both the Infrastructure Engineering and STEAM pathways, students have collaborated with South Metro Fire Rescue on multiple projects, each of which challenged students to innovate, iterate, take risks, persevere, and explore the intersection of passion, skill and education.

Throughout the process, SMFR’s training team has been a resource for providing feedback on prototypes and product creation. This project so far has brought on many challenges, the main being a lack of scientific and anatomical understanding about the locations of the body which the students are attempting to replicate. Students have conducted extensive research on bone size, density, skin, and muscle tissue thickness in order to best replicate a real-world patient. Additionally, students are working in a world they haven’t been introduced to before, true product creation. Previously, students have been producing projects for themselves, family members, and friends. This product is something that is instead being analyzed and critiqued by the client themselves and therefore the end user’s voice has become louder than students experienced before.

The first words of advice are create, iterate, and create some more; there is and will always be room for improvement. In addition, student design teams could talk all day about what they could make, but it isn’t until the first prototype is created that you can begin perfecting a product. Having a model to hold in your hands, use for demonstration, inspect, draw on, and discuss is the fuel to development. After creating the first model, the conversation really got rolling on how to improve the product for marketability.