

**REQUEST FOR APPROVAL OF THE PLAN TO EXPAND THE ENROLLMENT OF THE CENTRAL CITY CYBERSCHOOL OF MILWAUKEE THROUGH 12<sup>TH</sup> GRADE, AND APPROVAL FOR THE CYBERSCHOOL'S APPLICATION FOR A *CHARTER SCHOOL EXPANSION GRANT* TO THE WISCONSIN DEPARTMENT OF PUBLIC INSTRUCTION**

**CHARTER SCHOOL REVIEW COMMITTEE MEETING  
February 27, 2018**

**BACKGROUND:** In 2016, in anticipation of the retirement of the Cyberschool's founder and executive director, the governing board of the Cyberschool began a comprehensive strategic planning process funded in part by PAVE, and led by Mike Soika. The process included listening sessions with the entire school staff, the governing board, approximately 40 parents, and the entire 8<sup>th</sup> grade class. A number of themes emerged from these listening sessions, however the creation of a high school received the single highest number of votes in both the students' and the parents' responses. As a result, in 2017 the education committee of the governing board was charged with exploring the feasibility of expanding the Cyberschool through grade 12, and if deemed feasible, in 2018, detailing the process, including finalizing the business plan and identifying resources needed to expand.

In December 2017, the Wisconsin DPI announced that they would be offering existing high quality charter schools, especially those focused on improving academic outcomes for educationally disadvantaged students, the opportunity to apply for a subgrant to assist in the expansion of high quality schools. DPI defines "expansion" as "significantly increasing enrollment or adding one or more grades to a high-quality charter school." In 2018, the Cyberschool's governing board is preparing to apply for this grant opportunity in order to assist with funding the Cyberschool's planning and expansion through grade 12.

**WHY A CYBERSCHOOL EXPANSION IN GRADES 9-12 WITH A CODING AND TECHNOLOGY EMPHASIS?**

How do we prepare today's students to meet the challenge of artificial intelligence, self-driving cars, and "smart" houses?

One of the goals of the Cyberschool expansion through 12<sup>th</sup> grade is to ensure that our graduates have a comprehensive understanding of computer science, coding and programming. Why is this so critical? Computing jobs are the number one source of new wages in the United States with over 500,000 current openings, according to code.org. This proposed Cyberschool high school is in part a response to recent headlines bemoaning the need in Milwaukee for qualified African American and female candidates prepared for tech industry jobs, as well as students from low-income families trained in the skills needed to take advantage of that emerging tech industry.

Computer programming jobs include systems design and related services, software publishers, finance and insurance, manufacturing, and administrative and support services. There isn't an industry today that doesn't rely on coding in one way or another. Furthermore, software jobs are predicted to grow 34% in the next few years, making coding and app development some of the world's most in-demand skills.

Douglas Rushkoff, the author of "Program or Be Programmed" (2011), one of America's leading digital crusaders, argues that our schools need to incorporate computer programming into the core curriculum or get left behind. "It's time Americans begin treating computer code the way we do the alphabet or arithmetic", he states. Coding will be an essential skill that every student learns while enrolled at the Cyberschool high school, but we do not expect every student to want to be a

programmer. The freshman class will start by learning the basics of computer science and exploring a variety of pathways. Over their four high school years, software development (making apps, games and interfaces), web development (front-end with the user interface, or back end, dealing with how it connects to the internet), networking and engineering (including robotics), will grow their skills.

## OVERVIEW

The Cyberschool high school will focus on computer coding and technology skills in an inquiry-based model, valuing student curiosity, collaboration, critical thinking, engagement, and relevance. Opening with a first class of 50 ninth graders in August 2019, students will prepare for future careers and/or college, learning software development, including game design, web and app development, networking, information security, automation and other concepts in a project-based environment. Partnerships with local industry will be developed, offering opportunities for guest instructors and internships, preparing our graduates to be part of a more diverse workforce for high demand jobs within the tech industry. The curriculum will be designed by savvy educators and industry experts, integrating technology in all of the traditional subject areas needed to graduate from high school, in the most organic way possible, and focusing on valuing student curiosity as well as critical thinking.

The Cyberschool will be open to students who are brand new to coding as well as for those looking for more of a challenge. In addition to one-to-one laptops, students will have access to the latest industry equipment including programmable circuit boards, 3-D printers, soldering stations, and manufacturing labs, creating an innovative learning environment and maximizing hands-on experiences. Inquiry design and project-based learning will provide the instructional framework, innovation, coding, and computer science will be the focus, and academic courses will be integrated to offer a dynamic, student-centered academic experience.

Many of the key components of our existing Cyberschool K4-8 model will continue in the expanded grades. For example, the *Continuous Improvement* model that drives instruction in our existing K4-8 will continue through grade 12, giving students ownership of their learning, encouraging students to be reflective about what they have done, are doing, and need to do in the future. Additionally, the *Morning Meeting* framework from the Cyberschool's current *Responsive Classroom* model for building a strong school community and a culture of excellence, as well as our *Restorative Practice* elements and our *Trauma-Informed Care* and *Mindfulness* practices will continue to play a significant role in the 9th-12th grades expansion, although some age/grade/developmental adjustments will be made as appropriate. Further, the expansion of 9<sup>th</sup> through 12<sup>th</sup> grade will take full advantage of resources that are already on site in the K4-8 Cyberschool facility and program, such as food services, the library, gym, science lab facilities, CLC afterschool programming, and specials classes (Spanish, Physical Education, Art).

To better understand what kind of skill sets our graduates will need, we will seek input from industry partners and community members. Partnering with local tech and manufacturing companies, students will get to hear from guest speakers about career pathways they can take. As they get older, most likely their senior year, internships will be available. Part of the mission of our expansion is to give each student the skills they need to find either non-college solutions that allow them to get out of poverty and into middle-class jobs right out of high school, if they so choose, or to enroll in a college of their choice. Some of those specialized pathways include coding, software development, web development, engineering, networking, and robotics. Partnerships will facilitate guest instructors, workshops, field trips, mentors, and job shadowing, and internships for students as well as staff, in such areas as software development, web design, networking, information security, engineering, and entrepreneurship.

## WHY CODING?

Python, HTML, Java, C++, Scratch, Ruby & more, Smartphone apps, robots, video games, small business – the world runs on code. According to Apple CEO Tim Cook, “What we need to do is get coding into every single public school.” Coding refers to the assorted languages programmers use to make computer software operate. Websites, mobile apps and video games are assembled entirely by lines of code. Someone has to write these lines, letter by letter, symbol by symbol, and as with any other dialect, it takes proper spelling, spacing and punctuation for it to make sense. To learn coding is basically to learn a new language.

Coding is an invaluable form of literacy applicable to virtually any future career or field of study. Coding will help our students build this essential 21<sup>st</sup>-century literacy by learning how code works and how to write code themselves. Code will give them a new way to demonstrate knowledge and express themselves. According to Mitch Resnch (Edutopia, 12/7/2017), “Very few people grow up to be professional writers, but we teach everyone to write because it’s a way of communicating with others – of organizing your thoughts and expressing your ideas. I think reasons for learning to code are the same as the reasons for learning to write. When we learn to write, we are learning how to organize, express and share ideas. And when we learn to code, we are learning how to organize, express and share ideas in new ways, in a new medium.”

Possible workshops from coding and game development, to robotics and design, with industry-standard tech tools might include:

- AI and Robotics with your own Cozmo
- Assemble, Invent, and Code Your Take-Home Laptop
- Codemaker: Code and Design Games with Scratch
- 3-D Printing and Modeling
- Digital Video Production: Start your own YouTube Channel
- Code Café: Development with Java
- Engineer Workshop: Build and Code Wearable Tech
- Develop and Code Games with C++
- Code Apps with Java
- Cybersecurity and Encryption
- Autonomous and Self-Driving Robotics Lab

Understanding coding will give our students a foundation for how technology works, serving them well even if they don’t become professional programmers. At the very least, it could equip them to handle technology-related devices that are now a part of their lives. At best, it could get students interested in tech as a career.

## **TIMELINE:**

March 9, 2018 – Deadline for submission of the DPI Charter Expansion Grant application

May 2018 – Notification of grant status by DPI; if funded, the grant includes 5 years of funding for a total of \$750,000

Year 1 (July 1, 2018 – June 30, 2019) – one year of planning

Year 2 (July 1, 2019 – June 30, 2020) – add a class of 50 ninth grade students in each of the next four years

Year 3 (July 1, 2020 – June 30, 2021) – expansion includes 50 new 9<sup>th</sup> grade students plus the 50 continuing 10<sup>th</sup> grade students, for a total expansion of 100 students

Year 4 (July 1, 2021 – June 30, 2022) – expansion includes 50 new 9<sup>th</sup> grade students plus the 50 continuing 10<sup>th</sup> and 50 continuing 11<sup>th</sup> grade students, for a total expansion of 150 students

Year 5 (July 1, 2022 – June 30, 2023) – expansion includes 50 new 9<sup>th</sup> grade students plus the 50 continuing 10<sup>th</sup>, 11<sup>th</sup> and 12<sup>th</sup> grade students, for a total enrollment of 200 students

**BUDGET:** Grant funds will be used to support activities related to preparing for the expansion, including:

- Hiring and compensating staff during planning, including teachers, school leaders and support personnel
- Acquiring supplies, training and equipment (including technology) and educational materials (including developing and acquiring instructional materials)
- Carrying out community engagement activities, including student and staff recruitment

Year 1 (2018-19) – the planning year: \$150,000 budgeted to support;

- Salaries and benefits for staff hired for planning, establishing business and community partnerships, curriculum development, student recruitment, and hiring of instructional staff

Year 2 (2019-20) – the first 9<sup>th</sup> grade class enrolls: \$150,000 budgeted to support:

- Purchasing all needed furniture, equipment, supplies, technologies and educational materials to support classes for the 50 ninth grade students

Year 3 (2020-21) – the 50 ninth grade students matriculate to 10<sup>th</sup> grade: \$150,000 budgeted to support;

- Purchasing all needed furniture, equipment, supplies, technologies and educational materials to support classes for the 50 tenth grade students
- Recruiting 50 new 9<sup>th</sup> graders

Year 4 (2021-22) -- the 50 tenth grade students matriculate to 11<sup>th</sup> grade: \$150,000 budgeted to support;

- Purchasing all needed furniture, equipment, supplies, technologies and educational materials to support classes for the 50 eleventh grade students
- Recruiting 50 new 9<sup>th</sup> graders

Year 5 (2022-23) -- the 50 eleventh grade students matriculate to 12<sup>th</sup> grade: \$150,000 budgeted to support;

- Purchasing all needed furniture, equipment, supplies, technologies and educational materials to support classes for the 50 twelfth grade students, and facilitate internships
- Recruiting 50 new 9<sup>th</sup> graders