Computer Science Summer Professional Learning Programs
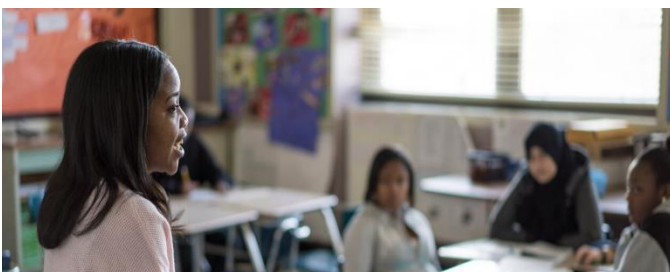
Computer Science Summer Professional Learning Programs hosted by Marquette University's PUMP-CS Project are designed to promote growth by providing space for you to become comfortable with curricula materials, CS content, and pedagogy. No prior CS experience is required. All programs use freely available curricula and tools. These programs support teachers with diverse teaching backgrounds as they prepare to teach any of the following courses:

- **ECS (Exploring Computer Science)** is a year-long introductory high school computer science curriculum and teacher professional development program that focuses on broadening participation in computing. The ECS curriculum is structured to facilitate inquiry and equity-based instructional practices so that all students are introduced to the problem solving, computational practices, and modes of inquiry associated with computer science. Marquette recommends this as the first course for high school teachers new to CS, and the first course for high school students with little or no prior computer science exposure.

- **Code.org CSD (Computer Science Discoveries)** is an introductory computer science course that empowers students to create authentic artifacts and engage with computer science as a medium for creativity, communication, problem solving, and fun. The curriculum is recommended for middle and high school students (grades 6-10), and can be taught either as a semester or full-year offering.

- **Project GUTS (Growing Up Thinking Scientifically)** is designed to integrate Computer Science concepts into existing middle school science classes, especially in contexts in which a standalone CS course is not available. Helps students from all different backgrounds to engage in scientific inquiry by investigating topics of interest to their local communities and sharing their experiments and findings.

- **Code.org CSP (Computer Science Principles, can be taught as an AP® course)** is a higher level introductory course for 9th-12th grade students that introduces students to the foundational concepts of computer science while challenging them to explore how computing and technology can impact the world. Introductory level computer science background is ideal, but not required for students or teachers.

- **BJC (Beauty and Joy of Computing)** is an AP Computer Science Principles curriculum that emphasizes the joy and complexity of creating visual computer programs and apps, using the visual programming language Snap! and a collaborative approach. BJC presents programming ideas in the context of how students interact with computers in their daily lives. The Beauty and Joy of Computing adheres to the College Board's new AP Computer Science Principles course requirements.

Both Code.org CSP and and BJC are excellent options for students who have previously taken introductory computer science curricula at the middle or high school level. All curricula support teachers new to the discipline with a complete set of lesson plans that include inquiry-based activities, online supports, assessment support, and educational tools.

Commitments:

Professional Learning Programs are both in-person and online supports designed to prepare teachers before and during their first years teaching Computer Science.

Timeline and locations:

Summer Workshops	Ongoing Support
5-day, in-person sessions	**School Year (September - June)**
Milwaukee, WI - **July 27 through 31, 2020**: ▪ ECS ▪ CS Discoveries ▪ Project GUTS ▪ CS Principles ▪ BJC Green Bay, WI **– July 20 through 24, 2020**: ▪ ECS ▪ CS Discoveries ▪ Project GUTS ▪ CS Principles	☐ 4 in-person sessions (on Saturdays). Exact dates will be announced during the summer workshops for: ▪ CS Discoveries ▪ CS Principles ▪ ECS ☐ Continued support and resources for all programs

Scholarships:

Do you teach in a high needs school, or a school with a diverse student population? Is funding for computer science limited in your district? We have scholarships available for teachers in Wisconsin thanks to the generous support of Code.org, BJC, National Science Foundation, and others. Please see contact details below and let us know if you need more information!
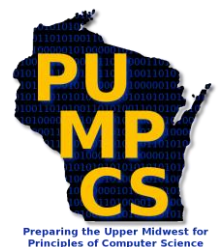

"I do not have a computer science background. I would change nothing about the training. It was an incredible experience, and I felt valued and respected."

"They make it so that you can understand the material and they make it so you want to come back!"

For additional information on the curricula, including course overviews, FAQs, and more, visit:

- **Marquette's PUMP-CS Project website:** https://pumpcs.mu.edu/
- **Exploring Computer Science:** http://www.exploringcs.org/
- **Code.org's CS Discoveries:** https://code.org/csd
- **Project GUTS:** http://www.projectguts.org/
- **Code.org's CS Principles:** https://code.org/csp
- **Beauty and Joy of Computing:** https://bjc.berkeley.edu/

For questions about summer 2020 courses, including application process, scholarships, logistics, cost etc., please contact Katya Winkler at: code@marquette.edu.

Marquette also offers no-cost workshops for Code.org CS Fundamentals teachers (grades K-5) throughout the year. Please contact us for more information!