2020-2021 STEM Capstone Project Requirements (Revised 05.10.20)

(NOTE: These same requirements can be used for a CTE performance based assessment)

Students interested in doing a STEM Capstone project as part of the requirements for a STEM Honors Recognition Certificate must do a project that includes the following components and meets the criteria described below. Students interested in also pursuing a CTE Honors Recognition Certificate can use the same criteria described below to fulfill the CTE performance based assessment component. In other words, it is possible to do one project that fulfills both the CTE performance based assessment requirement and the STEM Capstone project requirement for the Honors Recognition Certificates. (NOTE: Refer to the State of Hawaii Department of Education Graduation Requirements brochure for other requirements to earn a CTE Honors and STEM Honors Certificate).

Project components and criteria

- **Project plan (Proposal)** – The student creates and implements a plan for an integrated STEM project. The project must address a specific community need. The project should be grounded in multiple scientific and engineering practices, including scientific investigation and engineering design. A product is tangible evidence of the results of a STEM project, including, but not limited to a scientific poster/display board, a prototype or product of an engineering design, or a technology or technology application. Projects that are not appropriate for a STEM Capstone would be a paid job, shadowing a STEM professional, a report or presentation based only on book or internet research, demonstrating or teaching a skill, creating a work of art or performance, serving as a mentor, tutor, or coach, or any non-STEM project.
- **Paper** – A research paper that outlines background information, research methodology, data, results, and conclusions of the project. In addition to demonstrating understanding of STEM concepts and application of relevant practices, the paper demonstrates proficiency in writing skills and cites credible and current sources.
- **Portfolio** – The portfolio documents the process of completing the project. The portfolio should include all relevant forms, if any, evidence of completion of requirements, a reflection journal, the final paper, and a copy of the presentation. The reflection journal should demonstrate how the project meets or exceeds relevant content-area standards, including science, technology, engineering and math and also show how the project makes connections between STEM disciplines. The portfolio should demonstrate documentation of the entire project in a clear and concise manner.
- **Presentation** – This presentation should document the process of completing the project and the product, provide a summary of the research paper, and give evidence of meeting the STEM criteria, in a professional manner.

To earn STEM Honors, the student must score a minimum of 80% proficiency on the paper, portfolio, and presentation components.

PCHS students pursuing the STEM Honors Recognition Certificate will complete their STEM Capstone Project through either a designated CTE courses or the STEM Capstone course during their senior year.

CTE courses where students could do a STEM Honors Capstone project include:

- Building and Construction II
- Cyber Security
- Design Technology II
- Engineering Technology II
- Health Services Career Pathway Capstone
- Natural Resources Pathway Capstone
- STEM Capstone