



To: Dr. Charles Johns
Board of Education

From: Dr. R.J. Gravel

Date: Monday, August 26, 2019

Re: Purchase of Grant Funded Career Technical Education (CTE) Equipment

Recommendation

It is recommended that the Board of Education approve the purchase of the following equipment to be funded through the federal Perkins grant for Career and Technical Education in the amount of \$52,460.

Background

Glenbrook receives funding from the Career and Technical Education Improvement grant (CTEI) and the federal Carl D. Perkins Career and Technical Education (Perkins) grant to support the development of academic and career/technical skills of high school students that enroll in career and technical education programs. Both Glenbrook North and Glenbrook South offer comprehensive CTE programs providing hands-on skill development through rigorous and challenging academic and technical instruction to any interested student. In order to fulfill the goals of our CTE programs, it is critical that both schools maintain access emerging and established technologies that are used in technical industries. As a result, each school performs an annual, comprehensive review of the equipment and other instructional materials utilized to support their CTE courses, and makes recommendations for future uses of CTEI and Perkins grant funding.

Below is a summary of each school’s recommendations for use of grant funding for the 2019-20 school year. It should be noted that all grant expenditures are reviewed initially by Dr. Rosanne Williamson, and then submitted to an independent grant reviewer for approval prior to purchase.

| Building | Equipment Description | Vendor | Purchase Amount |
|----------|-----------------------|----------------|---|
| GBN | 3D Printer | Haldeman Homme | \$21,400 Trade-In Credit (\$3,980) \$17,420 |
| GBS | Laser Engraver | Depco | \$35,040 |
| | | | \$52,460 |

Glenbrook North High School - 3D Printer

At Glenbrook North, the curriculum for classes such as PLTW Introduction to Engineering Design, PLTW Principles of Engineering, Science Technology, Woods and the Woman in Engineering Club require students to create and design objects using a CAD computer program. The images are then printed using plastics into highly accurate 3D prototype images. There is currently a 3D printer which was purchased in 2013 and is broken beyond reasonable repair. The trade-in value is reflected above. The machine being recommended was purchased by the GBS CTE department in the Spring of 2019.

3D Printer



Examples of Output



Glenbrook South High School - Laser Engraver

At Glenbrook South, the laser engraver is the most utilized piece of equipment in the Makerspace lab. Students in classes such as Introduction to Engineering Design, Principles of Engineering, Digital Electronics, Engineering Design and Development and Architecture use programs such as Autodesk to create graphic design images. These images are sent via “vector” file to the laser engraver where the image is engraved onto various surfaces. The current laser engraver was purchased in 2011 and is not only approaching the end of its useful life, but the size and speed are no longer supporting the robust programs. The current machine will continue to be used and eventually sold through the surplus asset disposal process.

3D Printer



Examples of Output



Process

Both CTE Instructional Supervisors, Mary Kosirog and Dawn Hall, worked with their teachers to research different equipment models. They toured area high schools to observe the equipment being used in other CTE programs and talked to their counterparts in the various districts. Through this process they each identified the equipment make and model to best serve their needs. A request for quote was sent to various vendors. Four quotes were received for the 3D printer and two for the laser engraver (note: the laser engraver is only sold by two companies).

3D Printer

| | |
|------------------------|-----------|
| Haldeman Homme | \$19,900* |
| JBH Technologies, Inc. | \$19,900 |
| Paton Group | \$21,400 |

*Haldeman Homme is being selected due to high level of customer service and overall responsiveness. Both Haldeman Homme and JBH Technologies, Inc. are offering a trade-in value for the current equipment of \$3,980 while Paton Group is offering a trade-in of \$2,985.

Laser Engraver

| | |
|---------|-----------|
| Depco | \$35,040* |
| Fairway | \$35,800 |

*Depco is being selected due to high level of customer service, overall responsiveness, and cost.