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EVERY CHILD,
 EVERY OPPORTUNITY,
 EVERY DAY...
 STRIVING FOR SUCCESS

**Program Title (CIP Code): Engineering/Engineering-Related
 Technologies/Technicians, Other (15.9999)
 Occupational Advisory Committee
 November 9, 2023**

- I. Call to Order: 6:30 PM
- II. OAC Attendance: **Bold font-** Business and Industry

Program Description <https://www.education.pa.gov/K-12/Career%20and%20Technical%20Education/CIP%20Codes/CIP%20Code%2015.9999.pdf>

x	Francis Novak	x	Todd Fleming
x	Dana Coots		
x	Israel Engle		
x	Alice Stickler		

- I. Approval of Spring 2023 Minutes - Sent via email to the OAC on 4/11/23

Motioned	Alice Stickler	Seconded	Israel Engle
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All in favor.

- II. Old Business:
 - a. Reminder that letters of support are needed annually. Thank you to those who have provided these. (Annual-EZ tube International-9/26/22 and Metal Kraft 4/7/22)

Letter from Corning Inc. has been received/active for 23-24 school year.

Tyler Benedict offered for Trucklite to provide a letter of support.

2 Letters of Support are required yearly for the state. We can always reuse letters. Required: Signature, new date, letterhead/business card.

Francis reviewed the old business and minutes. There were no questions or comments. Francis reminded the committee of the need for letters of support preferably dated in May or June. Alice responded that she would try to have Corning Incorporated update

their letter for the 2024-2025 school year. Israel asked for a sample letter and said Electri-Cord would provide one as well. Francis would send the following day.

- b. Mr. Poirier and Mr. Benedict share the need for training- professional development to really bring the equipment "to life." The OAC members agreed that it is essential to build in training (professional development). As a result, professional development/training should be added to the list. (Examples: add G Code, 4-day training course for Fanuc robots, Alan Bradley training, Trucklite donated robot "to life.")

III. New Business:

- a. Perkin's Monitoring Corrective Actions- Continuing to watch the fiscal components
 - Spend by the end of January 2024
- b. Safety Checklist (D) All of the PDE Checklists will be sent via survey monkey link for each OAC members in the Spring. We will continue a Spring administration.
 - Any safety concerns from the committee
- c. Shop layout (D) Tour available if you need a tour.
- d. . Instructional Materials/Equipment and Tools Needed (F)/3-year equipment list:
 - Review and discuss the presented Engineering equipment/material list (provide physical list to OAC)
 - Recommendations

Francis went through the equipment list with the following outcomes:

Remove 3-D modeling software as the committee agreed using the AutoDesk software is fine.

Add safety equipment for the robotic arm and CNC machine. Todd brought up a cage specifically. Todd asked if we had 3-D printers, it would be a good idea to have more or faster ones to make using them more feasible for the classroom. Israel asked if prioritizing the list of equipment was necessary or something the group should work on. It was decided not at this time but a good suggestion for when the program is up and running.

Engineering, Technologies/Technician CIP 15.9999

Materials and Equipment List

Equipment:

- software and hardware to support CNC machinery
- robot or robotic arm attachments
- software and hardware to support robot or robotic arm
- PLCs and PLCs trainers, software
- Snap On multimeters
- student laptops to support drafting courses
- drafting software
- small hand tools as needed
- design software for STEM applications
- 3-D scanner
- Safety Equipment for CNC and robotic arm
- 3-D printer

As needed replacement of:

- battery-powered hand tools
- hand tools
- CNC bits
- electrical components

Materials:

Materials for setup of:

Purchase of consumable materials for:

- CNC machinery practice
- electrical wiring practice
- chemicals (material science)
- engineering design projects

Equipment/Material List Vote:

Motioned	Alice Stickler	Seconded	Israel Engle
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All in favor.

- e. Nontraditional- on a state improvement plan for Engineering due to non-trad. Provide current numbers. The OAC has been helpful with suggestions. Any suggestions?
- f. Curriculum (POS and Maps) (B)
 - i. POS and Curriculum Maps:
 - Seeking to add: Supervised Experience-seek employers/can be STW
 - Presentation of 4-to-3-year program

Task Grid Reference: <https://www.education.pa.gov/K-12/Career%20and%20Technical%20Education/Programs%20of%20Study/Pages/Framework.aspx>

It was shared that we must have 8 as a minimum to run the program and we must have 4 Bus/Industry representatives or 50% B/I.

Francis noted that visits to Trucklite as well as getting support from them are needed to help make the robotic arm and CNC machine meaningful and bring them to life for the program. This is something that he will reach out for before the new year.

Dana asked what we were doing to gain student interest/exposure in the engineering program in-house. Francis discussed CTE day and the committee agreed it is too rushed to be very effective, and another exposure in the spring would be impactful. The committee discussed having an engineering day in April or May where local industry would send rep's with demonstrations and information. The committee members all agreed it is worthwhile to pursue and planning the engineering day could be the focus of the spring OAC meeting.

Approval of scope and sequence change-3 Year, 1,080 Hours.

Motioned	Israel Engle	Seconded	Alice Stickler
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All in favor

The program requirements and improvement plan were explained by Francis. The program currently has 5 females. Dana asked what the threshold percentage was for non-traditional students in engineering and Francis stated he would find out but believed we are probably ok. Francis also explained the need to have at least 8 students be completers to have a functioning program.

- g. Analysis of NOCTI test- Preparing with pre-NOCTI and students will take the NOCTI in the spring.
- h. Placement After Graduation (H): None at this time
Adding Dual Enrollment PCT Course: Shared enrollment numbers for PCT

-We attended the local Manufacturing Day at Williamson High School in October.
- i. Program Evaluation (H): Verification of Industry Standard and Student Competencies are being Achieved: Improvement Plan: Industry Credential Indicator- each program has industry-based credentials as required by PDE. In engineering it is OSHA.
- j. Employment Outlook/Co-op Opportunities- Local job data shared in the LAC and Stakeholder meeting

IV. Other Business or Related Matter -Discuss a suggestion for a Spring Meeting in the Month of March 2024.

Location: Timeless Destination, March 20, 2024 at 6:00

Adjournment- 7:56 PM

Motioned	Alice Stickler	Seconded	Israel Engle
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Engineering Technologies/Technician Program

Courses for Designing and Building the Future

The engineering courses will prepare you to move on to a career or further education in the engineering field:

Engineering Classes

The engineering classes will prepare students to further their engineering education at a two-year school or a four-year college. Additionally, the students completing the program will have developed the necessary technical, hands-on skills to pursue entry-level technician positions after graduation.

Engineering 1	Engineering 2	Engineering 3	Engineering Occupations Supervised Experience
<p>During this course, students will complete several engineering challenges. While completing these challenges, students will learn about safety and ethics in engineering as well as problem-solving and teamwork skills as they apply to the engineering field. Additionally, manufacturing and industrial systems and structural engineering will be introduced.</p> <p>Students will complete the OSHA 10-Hour Certification in this course.</p>	<p>This second-level engineering course will have a more in-depth focus on design processes and materials used in engineering. Students will design and model a solution to an engineering problem. Additionally, the properties of materials and their appropriate uses will be investigated.</p> <p>Pre-requisite: Engineering 1</p>	<p>This third-level engineering course will examine fluid systems, electrical systems, and automated systems as they relate to engineering. Students will examine fluid dynamics and the maintenance of fluid system. Student will learn basic electronics. Additionally, students will learn how machine controls and automated systems are used in engineering.</p> <p>Pre-requisites: Engineering 2</p>	<p>This lab will focus on engineering and engineering technology skills in an industrial setting. There is no set classroom time for this course. Students will be exposed to and gain experience in the application of engineering as a career through: independent research projects, job shadowing, and local internships. Additionally, students will spend time in this course preparing for the NOCTI exam.</p> <p>Pre-requisite: Engineering 3</p>

Engineering Technologies/Technician Program

This program prepares individuals to apply knowledge and skills in the engineering field. Instruction includes, but is not limited to, safety, ethics, power, problem solving, teamwork, engineering graphics, automated systems, fundamental electronics, and manufacturing systems as well as adhering to the Science, Technology, Engineering and Mathematics (STEM) Initiative.

Subject – Hours	Grade 9 – Hours	Grade 10 – Hours	Grade 11 – Hours	Grade 12 - Hours
TECHNICAL – 360 Hours	Engineering 1	Engineering 2	Engineering 3	Engineering Occupations Supervised Experience
	Drafting 1	Drafting 2	Electricity and Plumbing	Small Engines and Shop Maintenance
		Computer Programming	Science Technology and Society	Robotics
English (4)	9 English or 9 Honors English	10 English; 10 CP English; or 10 Honors English	11 English; 11 CP English; or 11 Honors English	12 English; 12 CP English; or AP English and AP Composition
Math (4)		Any sequence of four credits of Mathematics.		
Science (4)	Biology	Earth and Space Science	Chemistry or Physical Science – Chemistry and Physical Science - Physics	CP Physics or Honors Physics
Social Studies (4)	American History or Honors American History	Honors Government and Economics Government and Economics	World History Honors World History	Applied Psychology Dual Enrollment Psychology CP Sociology Criminal Fiction Contemporary Affairs Justice Education AP Government
Humanities	Music	Intro to Art		
Physical Education	Health & Physical Education	Health & Physical Education	Health & Physical Education	Health & Physical Education
Required Electives	Computer			

Questions or More Information

If you have any questions about these classes or need more information about these classes or programs, please contact Mr. Novak

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