Student Course Plan Survey Selection Guide 9th – 12th Grade

The purpose of this document is to track student graduation and career interests throughout high school in order to meet all graduation requirements and post-secondary readiness requirements.

Student Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Grade Level next year: 09 10 11 12

Parent Signature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Today’s Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Which of the three diploma types are you seeking?

1. **Diploma with Certifications (Workforce Ready after 12th Grade or Military).**

*Workforce or Military ready indicates that the student has chosen one of the career paths offered at PTEC (Construction, Machining, Welding, Fundamental of Engineering) finished the required certifications, and completed the required standard graduation requirements.*

1. **Diploma with Associates Degree (Remain a student at PTEC for up to two additional years).**

*Students may begin working on an approved associate degree as early as their senior year. See the school counselor for a list of the AAS Degrees you can obtain.*

1. **Diploma with college endorsement (Ready for admission to a four-year college after 12th grade).** *Students planning to attend a traditional four-year university after high school should consult the school counselor for best course of action depending on degree major. All students planning to attend a four-year university must follow the graduation requirements.*

The current student course selections are listed in the grids on the next page. The choices that are made will be awarded only if all the pre-requisite requirements have been filled. Older students will be prioritized if classes fill up.

What other considerations should PTEC administration be considering for you and your student?  
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Revised 7/22/2020 (AAS Pathway Added)

Please circle the appropriate choices below (pay attention to prerequisites. These choices are not guaranteed. DO NOT circle a class if you already had it or are currently taking it.

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| Math Course (Circle One) 3 years minimum  **\* For graduation you need three years of Math with at least three of these four classes, depending on where you begin.**  ***Subject to courses needed and competed***   1. **Pre-Algebra – \***   *Prerequisite(s): Math 7*   1. **Algebra I – \***   *Prerequisite(s): Pre-Algebra / Math 8*   1. **Algebra II – \***   *Prerequisite(s): Algebra I*   1. **Geometry – \***   *Prerequisite(s): Algebra I*   1. **Advanced Math / Trigonometry**   *Prerequisite(s): Algebra II*   1. **Calculus I**   *Prerequisite(s): Trigonometry*   1. **Statistics**   *Prerequisite(s): Algebra II* | Science Course (Circle One) 3 years minimum  ***Subject to courses needed and competed***   1. **Earth Science – Graduation requirement**   *Prerequisite(s): none*   1. **Physics – Graduation requirement**   *Prerequisite(s): Enrolled in Algebra I or above*   1. **Biology**   *Prerequisite(s): Enrolled in Pre-Algebra or above*   1. **Chemistry**   *Prerequisite(s): Enrolled in Algebra II or above* |
| **CTE Course / Track (Circle One) 10-12 grade**  **9th graders will have Intro to Metal Shop and Manufacturing. If you are a new student, we will also need to get you in Construction. 9th graders please fill out if you plan to go to PPCC or workforce, or 4-year college.**   1. **Machining Technology** 2. **Welding Technology** 3. **Construction Technology** 4. **Fundamentals of Engineering**   *Prerequisite(s): CAD, Algebra I / Enrolled in Algebra II, and Physics*   1. **CAD 1, 2, 3, 4, 5, 6**   *Prerequisite(s): The previous CAD class is needed to move on to the next.*   1. **Robotics 1 and 2**   *Prerequisite(s): Robotics 1 before moving on to Robotics 2.*   1. **Plan to attend Pikes Peak Community College**   **What AAS Degree? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**   1. **Plan to get your Diploma and enter the Workforce or Military**   **Where will/do you hope you will be working or what job do you hope to have in the military? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**   1. **Plan to attend a Four-year university**   **What University? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | Electives (Put below choice #1, and #2)  ***Subject to course requirement –***  ***Each elective is NOT available every period***   1. **Study Hall** 2. **Teaching Assistant / Student Mentor** 3. **Intro to Computer Aided Design for MS** 4. **Intro to Robotics for MS** 5. **Newspaper & Yearbook Design** 6. **Physical Education** 7. **Music Appreciation** 8. **Spanish** |

# **PPCC Associates Degrees through the PTECH Program**

1. **AAS Machining Technology (Advanced Manufacturing Emphasis)**

The Advanced Manufacturing emphasis will provide training technology using software such as SolidWorks, MasterCAM 2D and 3D, and CamWorks. The emphasis also offers courses in Geometric Dimensioning and Tolerance (GD&T) and 3D Printing for prototyping.

1. **AAS Machining Technology (Machining Emphasis)**

The Machining Technology emphasis degree will advance students’ hands-on fundamental skills of machining using MasterCAM 2D and 3D software, while developing applied math skills and problem-solving techniques.

1. **AAS Architectural Engineer/ Construction Management**

The building construction industry is very broad and encompassing, offering many diverse and satisfying career options where students can explore and discover their fitting involvement. The program provides the technical training and preparation for students to participate as a valuable contributor in architectural, engineering, and construction firms.

Career opportunities include architectural and engineering technician, draftsperson, certified document technician, construction project engineer, quantity surveying and sales. With additional equipping and/or education, additional career options include licensed professional architect, engineer, landscape designer, urban planner, general contractor, construction estimator, project manager, and building inspector.

1. **AAS Building and Construction Technology**

The Building and Construction Technology program is a program that prepares individuals to apply technical knowledge and skills to residential and commercial building construction and remodeling. Including instruction in construction equipment and safety; site preparation and layout; construction estimating; blueprint reading; building codes; framing; masonry; heating, ventilation and AC; electrical and mechanical systems; interior and exterior finishing; and plumbing.

1. **AAS Heating, Air Conditioning & Refrigeration Technology**

This program prepares students to enter the heating, air-conditioning and refrigeration field. This field of work involves different trade disciplines. The two-year program of core courses trains students in residential and commercial heating, ventilation, air conditioning, and refrigeration. The emphasis will be on the servicing and maintenance of equipment found in residences, commercial buildings, and large facilities.

1. **AAS Computer Aided Drafting (Robotics and Automation Emphasis)**

The Computer Aided Drafting (CAD) program prepares students to enter the workforce as a skilled CAD technician for who are equipped with a solid foundation for drafting positions in manufacturing, engineering, and other areas requiring production ready drawings and 3-dimensional or 3D models for fabrication using the latest releases of multiple CAD software. In addition, students will acquire skills in subject matter of design principles, industry standards, fabrication materials, manufacturing applications, tolerance methods and analysis, problem-solving techniques and general organizational skills.

1. **AAS Computer Aided Drafting (HVAC Emphasis)**

The Computer Aided Drafting (CAD) program prepares students to enter the workforce as a skilled CAD technician for who are equipped with a solid foundation for drafting positions in manufacturing, engineering, and other areas requiring production ready drawings and 3-dimensional or 3D models for fabrication using the latest releases of multiple CAD software. In addition, students will acquire skills in subject matter of design principles, industry standards, fabrication materials, manufacturing applications, tolerance methods and analysis, problem-solving techniques and general organizational skills.

In the HVAC emphasis, students are prepared for entry level careers as a CAD technician in the heating, air conditioning, and refrigeration field. This field of work involves different trade disciplines in residential and commercial heating, ventilation, air conditioning, and refrigeration. This includes drafting technician positions in mechanical, electrical, and heating systems while learning basic refrigeration, fundamentals of gas heating, and electricity for HVAC systems for both residences and large facilities.

1. **AAS Computer Aided Drafting (Mechanical Emphasis)**

The Computer Aided Drafting (CAD) program prepares students to enter the workforce as a skilled CAD technician for who are equipped with a solid foundation for drafting positions in manufacturing, engineering, and other areas requiring production ready drawings and 3-dimensional or 3D models for fabrication using the latest releases of multiple CAD software. In addition, students will acquire skills in subject matter of design principles, industry standards, fabrication materials, manufacturing applications, tolerance methods and analysis, problem-solving techniques and general organizational skills.

1. **AAS Electronics Technology**

The electronic technology pathway iintroduces the basic skills needed for many careers in electronics and related fields. Covers the operations and applications of basic DC and AC circuits consisting of resistors, capacitors, inductors, transformers and diodes. Emphasizes the use of common test instruments in troubleshooting.

1. **AAS Welding**

Training in welding is offered to those who wish to learn basic welding skills or to upgrade their knowledge in welding and fabrication. All welding courses are offered on a self-paced basis. Classes use course outlines, books, videos, and instructor assisted instruction with practical hands-on training. Various types and thicknesses of material are welded in all positions with different welding processes. Courses in ornamental ironwork are also available. The degree program provides students with additional competencies in welding which will enhance their upward mobility.

# **PTEC Certifications and Credentials**

1. HBI Certifications

* PACT CORE (Units 1-5): May be obtained during 10th or 11th grade.

1. AWS Certifications

* D1.1 3G MIG Welding
* 6G Pipe Weld
* 4G Overhead

1. OSHA Certifications

* OSHA 10 Certification: Required of all 11th grade students
* OSHA 30 Certification: Required of all students in Construction 3 – 4.

1. NIMS Certifications

* CNC Mill Operations Level 1
* CNC Mill Programming Setup & Operations Level 1
* CNC Lathe Operations Level 1
* CNC Lathe Programming Setup & Operations Level 1
* Job Planning, Benchwork, & Layout Level 1
* Maintenance Welding Level 1
* Electrical Systems Level 1
* Computer Aided Manufacturing
* Metal forming Level 1

1. AutoCad Certifications

* Upon request the test may be taken through Mr. Espinoza. The cost is $40.

1. Microsoft Certifications

* Upon request the test may be taken through Mr. Espinoza. The cost is $40.