



Precision Machining
CIP Code #48.0501

Standard Occupational Classifications	2015 Pennsylvania High Priority Occupations
51-4111.00 Tool and Die Makers 51-4081.00 Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic 51-4033.00 Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic 51-4194.00 Tool Grinders, Filers, and Sharpeners 51-4012.00 Numerical Tool and Process Control Programmers 51-4012.00 Numerical Tool and Process Control Programmers 51-4011.00 Computer-Controlled Machine Tool Operators, Metal and Plastic 51-4041.00 Machinists	17-2141 Mechanical Engineers ³ 51-4011 Computer-Controlled Machine Tool Operators, Metal & Plastic ³ 51-4012 Computer Numerical Tool & Process Control Programmers ³ 51-4041 Machinists ³ 51-4081 Multiple Machine Tool Operators, Metal & Plastic ³ 51-9061 Inspectors, Testers, Sorters, Samplers and Weighters ³
Student Certifications	
ECTS Program Participant or Completer Pennsylvania Skills Certificate National Institute of Metalworking Skills (NIMS) Certifications- Machining Level I: <ol style="list-style-type: none"> 1. Measurement, Materials and Safety 2. Job Planning, Bench Work, and Layout 3. Manual Milling 4. Manual Turning Between Centers 5. Manual Turning with Chucking 6. Manual Surface Grinding 7. Manual Drill Press Operations 8. CNC Turning: Programming Setup & Operations 9. CNC Milling: Programming Setup & Operations 10. CNC Turning: Operator 11. CNC Milling: Operator OSHA 10-Hour General Industry Certification WIN Certification (Gold/Platinum)	

Key: ¹Statewide HPO ²Regional HPO ³Both Statewide and Regional HPO

For more information, go to: <http://online.onetcenter.org/find/family?f=17&g=Go>

Precision Machining

Course Prerequisites





Expected Characteristics and Traits for Success

Students considering the field of Precision Machining will be entering an environment of rapidly changing technology. Electronics, computerization, robotics and automation are the driving force in today's work environment. This course is designed to prepare a student with a variety of skills for entry level employment. Students can aspire to a wide variety of career opportunities.

Students entering this program should possess the following traits:

- Have an excellent attendance record- the industry standard is 95%.
- Be safety conscious and aware of the surrounding area.
- Have good mathematics skills- should have taken Algebra I and earned a C or better.
- Be physically fit and able to remain on their feet for long periods.
- Have good hand/eye coordination.
- Possess good communication skills, both verbal and written.
- Be a self-starter and able to stay on long tasks from written and verbal instructions.
- Ability to read- technical material is used often. Grade 9 reading skill or better
- Have the ability to work as both part of a team, and independently.
- Be detail-oriented.

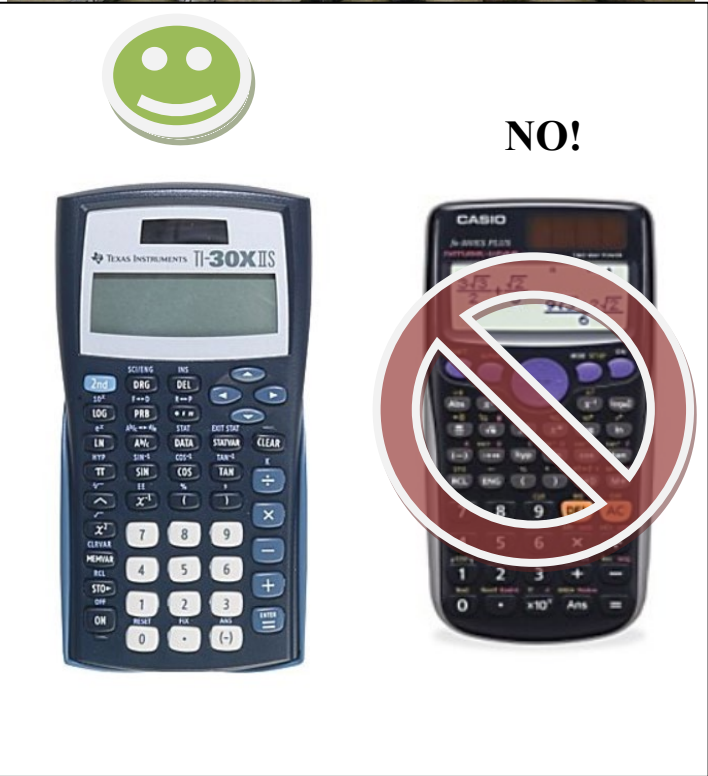
Materials/Supplies Provided by the Student:

<p>➤ Full grain, steel toe leather work boots with non-slip sole.</p>	<div style="text-align: right;"> <p>Genuine Dickies Men's JobRated Axle Waterproof Work Boot</p> <p>\$64⁹⁸</p> <p>★★★★★ (13)</p> <p>See all in All Men's Shoes</p> </div> <div style="text-align: center;">  <p>(Or Similar)</p> </div> <div style="text-align: right; margin-top: 20px;"> <p>Tredsafe Nola Men's Steel Toe Slip Resistant Hiker</p> <p>\$27⁷⁶</p> <p>★★★★★ (36)</p> <p>See all in All Men's Shoes</p> </div> <div style="text-align: center;">  <p>(Or Similar)</p> </div>
<p><i>*Sneakers, flip flops etc... are not allowed on the shop floor!</i></p>	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div>

- A professional appearance is expected. T shirts / Polo shirts etc... are O.K
- Jeans or kakis that are of standard full length.
- Heavy cotton (or denim) pants that are not baggy or torn.



- Scientific calculator:
- **TI-30X** (Approx. \$14.00) at Wall-Mart , Amazon... Math class will review how to use many features of this model. It is suggested to stay away from other brands / models (Includes graphing) due to class reviews
 - Our school most commonly uses the TI-30X but you may use any brand, it will just be harder to learn and may not be able to be used during state tests.
 - You are usually NOT allowed to use Cell Phone calculators during tests.
- Bring your calculator EVERY day!**



- (1) one inch three ring binder with pockets and 100 sheets of college ruled paper
- (12) #2 pencils and (4) pens in a variety of colors.

A simple tip for always being prepared for class and not having points taken away (and writing a paper) for unpreparedness is to always keep at least the following in your locker:

1 pair of boots, 1 pair of jeans, 1 work shirt, 2 pairs of safety glasses (1st pair is free), 2 pens, 2 pencils, 1 highlighter, and college ruled loose leaf paper or a notebook.