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The Plumbing & Heating Program

CIP 46.0503

Instructor: Christopher Gardecki

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Have Questions?

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READING MUHLENBERG CAREER & TECHNOLOGY CENTER

MISSION STATEMENT

The Reading Muhlenberg Career & Technology Center, in partnership with our diverse community, sponsoring districts, and business and industry, is committed to providing quality career and technical education, resulting in opportunities for students to gain employment, pursue post-secondary education, and develop an appreciation for lifelong learning.

VISION STATEMENT

To empower Reading Muhlenberg Career & Technology Center students with the technical knowledge and skills to confidently pursue a career.

BELIEFS

- We believe in valuing the diversity of each student
- We believe education leads to opportunity
- We believe quality education starts with quality leadership
- We believe a career and technical education is a critical component of workforce development
- We believe technology is vital to learning and will help students connect with a rapidly changing world
- We believe technology must be embraced by teachers as a tool to help prepare students to meet current and future labor market demands
- We believe in providing all students with a positive educational experience
- We believe students should feel proud of what they have accomplished each day
- We believe students will be provided the opportunity to achieve their highest potential
- We believe students will be provided the opportunity to acquire and cultivate leadership skills
- We believe in providing students with a safe school environment
- We believe the success of a student is enhanced by parents and/or other influential adults through their support and involvement
- We believe in encouraging students to maintain a lifelong affiliation with the school
- We believe change is an ongoing process, not an event, and is fundamental for building quality programs of study
- We believe instruction must accommodate individual student learning styles



Plumbing and Heating

Your child is preparing to learn the skills and duties of a “Plumber” in the “Plumbing and Heating Program” at the Reading Muhlenberg Career and Technology Center. They have made an outstanding career & technical education choice but, as a parent of your future Plumber, it is important for you to understand some of the rules and requirements of the plumbing shop. Your understanding and support of the program can make the difference in the outcome of your child’s education.

It is imperative for your child to have the proper work clothes for this type of work environment. A work suit or jeans (no shorts) and a T-shirt with the school logo is required to be worn each day. This is a school uniform and is required to be worn each day. The student is supplied with one T-shirt and if more are needed they can be purchased through the school or a web site. Cotton materials are more durable in this field and also safer when the student is working with soldering torches. Synthetic man-made materials are definitely not suited for plumbing work due to their high flammability. In addition, a sturdy work shoe or boot is required and sneakers or sandals are not safe or permitted in the shop area. Safety glasses are required and one pair will be provided by the school. Your child will be held responsible to use and not lose this safety device. If lost, they will be required to pay for another pair. Without the proper work clothes the student will not be permitted to work in the shop and cannot succeed in the program.

Another important aspect of this education is the area of a student’s attendance. Missing class or being late is just as critical as missing a day’s work, and your child’s grade will suffer accordingly. A major portion of your child’s grade is assessed directly from attendance and performance in class. When absent, they will not receive a grade for the day unless we receive a parental excuse. Likewise if they are not working, fooling around, disrupting the class or not in their assigned area, valuable grade points for the day will be lost. His/her grade is his/her paycheck, based upon their performance.

In conclusion, your child’s education and their future are of my utmost concern. I will not hesitate to contact you by phone or through written correspondence when I feel you need to be informed of a problem. I believe in parental conferences if the need arises. I hope that you will also take an interest in your child’s future and contact me at school if you have any concerns or problems. We need to make it a joint effort to prepare your child for the world of employment as it exists today. Thank You.

Sincerely,
Christopher Gardecki
Plumbing & Heating Teacher
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plumbing & heating

- Design and build residential and industrial plumbing systems.
- Install kitchen and bathroom fixtures using state of the art hand tools, power tools, and equipment.
- Repair and replace older plumbing fixtures and faucets with modern tools and equipment used by master plumbers.
- Obtain OSHA 10-Hour Safety Certification required by most plumbing contractors.



Job Titles – Career Pathways

- 47-2152 Plumbers, Pipefitters, and Steamfitters
- 47-3015 Helpers — Pipelayers, Plumbers, Pipefitters, and Steamfitters
- 49-9042 Maintenance and Repair Workers, General
- LOCAL Pipefitter
- LOCAL Plumbing Salesperson



CTC knowledge transfers to college credits at:

- Community College of Allegheny County
- Luzerne County Community College
- Orleans Technical Institute
- Pennsylvania College of Technology
- Thaddeus Stevens College of Technology
- Triangle Technology

Student Certifications

- NOCTI – National Occupational Competency Testing Institute Certification
- * Plumbing Technology/Plumber
- OSHA Safety Certification
- PBA – Pennsylvania Builders Association
- Corrugated Stainless Steel Tubing Installation Certification

Accreditations

- PBA – Pennsylvania Builders Association



Instructor – Mr. Christopher Gardecki

Biography

I started my career in the Plumbing and Heating program at Berks Career & Technology Center, Oley Campus. I spent three years learning all that I could to help in my job placement and to prepare me for the plumbing industry. After graduating, I started my plumbing career. My vo-tech education helped me to receive my first job within two weeks of graduation.

I continued to work various jobs in the plumbing field before enrolling in the apprentice program. After four years of classes, I received my Journeyman license. After working under a master plumber for two years, I took the test and then received my Master plumber license. Since then I have run my own truck, crew, and jobs.

After working for many years in the field and still learning everything I could to be the best at my job, I decided to become a teacher at the Reading Muhlenberg Career and Technology Center because I love teaching this much-needed and never-ending trade.



Education

Plumbing and Heating Program, Berks Career & Technology Center

Plumbing Apprentice Program, Berks Career & Technology Center

Master Plumber's Course, Berks Career & Technology Center

Certifications and Awards

Gastite

Uponor

Master Plumber License for the City of Reading

Work Experience

I worked in the plumbing and heating field involving new home construction, remodeling, demolition, residential, commercial, and service plumbing for approximately 20 years.

Hire Date

2015

Program Planning Tool

Program Title: CIP 46.0503 PLUMBING AND HEATING

Student Name: _____

This document has been designed as a tool to facilitate student placement decisions and provides important information about the program. The chart on the reverse side is designed to assist in the identification of necessary skills, present educational levels, and supports, if any, that are needed to foster program success.

Program Completion Requirements

A successful student will...

- Secondary Academic Course Requirements: The PA Dept. of Education's focus is to ensure every student is college and career ready, therefore all students are recommended to follow a college prep sequence of academic classes. Courses such as applied math or general science are not appropriate for this program. PDE's goal is to have all students perform at the competent or advanced level on the Keystone Exams and Program of Study end-of-program assessment (NOCTI).
- Complete an Occupational Competency Assessment (i.e. NOCTI end-of-program exam) and score at the "competent" or "advanced" level. This end-of-program exam will cover the full scope of the program of study curriculum and includes (1) a multiple choice test and (2) a performance test consisting of occupational related tasks scored and evaluated by industry judges.
- Earn a minimum of one industry recognized certification. Students will be encouraged and expected to earn all recognized industry certifications that make up the scope of the curriculum. Accommodations are not permitted for industry certifications. These include Pennsylvania Builders Association, OSHA, and Corrigated Stainless Steel Tubing Installation Certification.
- Complete the approved program curriculum and earn a minimum of one RMCTC Job Title aligned with the student's career objective. Job titles are identified on the program task list, aligned with local workforce needs and high priority employment occupations, and annually reviewed and approved by the program's occupational advisory committee.
- Successful completion of Keystone Exams as determined by sending school district.
- Maintain a 95% attendance rate or better.
- Transition on to a post-secondary institution, military or related fulltime employment aligned to their CTC program of study.

Instructional Process/Specifications

A successful student will...

- Perform a wide variety of tasks in a laboratory environment with equipment consistent with industry standards. Up to 25 students are assigned to work "independently" and in "small teams". Students progress by using learning guides in a self-directed manner. In the laboratory, students will be required to use a variety of hand and power tools that will include hammers, files, wrenches, power saws, power drills, drill presses, soldering torches, pipe cutters, and pipe joining tools.
- Students will also be required to use ladders and scaffolding. Using this equipment requires self-discipline and strict adherence to rules to ensure safety of self and others. The laboratory simulates a real working environment therefore students will be exposed to the noise levels, dust, debris, and fumes associated with plumbing and heating professions.
- Participate in classroom theory and laboratory applications for generally 2 ½ hours each day; students will spend 50% of their time in classroom theory and 50% of their time doing laboratory applications and live work.
- Participate in Career & Technical Student Organizations including HBA, SkillsUSA and/or National Technical Honor Society.
- Participate in a paid or unpaid work based learning related to the Program of Study (cooperative education, clinical internship, and/or job shadowing).
- Complete written and performance tests. Students will be evaluated weekly on occupational skill performance using rubrics. In addition, students will be evaluated daily on work ethics. Progress is measured by test performance, task completion and work ethic.
- Read and study textbooks and technical manuals. Most textbooks are written at a 10th to 11th grade reading level and most technical manuals are written at a higher level.
- Complete homework on time. Homework typically involves chapter or workbook assignments, on line research assignments and writing assignments.
- Purchase appropriate work and safety attire, tools, and equipment. Following is an estimate of costs: UNIFORM: Cotton based work wear, \$30.00 & Work boots, \$85.00

Program Planning Tool

CTE Requirements	Present Educational Ability/Level	Support Needs
<p>Program Completion – Strong self-determination skills and understanding of personal strengths and weaknesses. Ability to meet industry established standards of performance, complete the program of study without curriculum modifications, and earn industry certifications without testing accommodations.</p>		
<p>Reading & Language Arts Level- Text and manuals written on a 10-11th grade reading level. Proficient on end-of-course exam (Keystone). Must have ability to read and understand technical reference manuals, blueprints, and schematics. NOCTI assessment and industry certification exams require a proficiency in English language skills.</p>		
<p>Math Level - At grade level and proficient on end-of-course exam (Keystone). Knowledge of arithmetic, algebra, geometry and their applications. Ability to calculate materials using floor plans, elevations and sectional plans. Ability to apply construction geometry; calculate board and square feet, linear measures, square measures, and cubic measures; convert fractions, decimals, and percents; simplify measurements. Ability to calculate electrical loads and perform electrical mathematics. Ability to do precise measuring and dimensioning according to blueprints and drawings. Ability to use math to solve problems.</p>		
<p>Aptitude – Mechanical, numerical ability, critical thinking, inductive reasoning, visualization and spatial relations. Problem solving and troubleshooting skills.</p>		
<p>Safety & Physical – Manual dexterity, multi-limb coordination while standing, sitting or lying down, arm-hand steadiness and finger dexterity. General body coordination and stamina that requires considerable use of arms, legs and whole body. High degree of self-discipline and focus needed for safety around moving equipment, hand tools, power tools and other equipment found in the industry. Physical strength and stamina with the ability to lift 50 lbs. overhead. Ability to work in all weather conditions, work independently, have good eye/hand coordination, color discrimination, no fear of heights or working in closed spaces.</p>		
<p>Interpersonal/ Social – Active listening, communication skills with supervisors and peers, ability to work alone or cooperatively on a team.</p>		
<p>Other Occupational/Program Considerations - Exposure to the noise levels, dust, debris, and fumes associated with plumbing and heating. Ability to visualize in 3 dimensions, basic computer skills for online curriculum, strong attention to detail, willing to work in all weather conditions, willingness to work outside of classroom especially studying technical manuals.</p>		

Scope and Sequence Plumbing & Heating 46.0503

Academic Subjects – Career success and postsecondary education success require the same level of college prep coursework. The Pennsylvania Department of Education’s (PDE) focus is to ensure that every student is prepared for college and a career. Academic courses such as applied math or general science cannot be listed on the program’s scope and sequence. PDE’s goal is to have all students perform at the competent or advanced level on the PSSA, and earn the Pennsylvania Skills Certificate on the end-of-program assessment.

Subject (Hours)	Secondary School				Postsecondary Institution			
	Grade 9 (Hours)	Grade 10 (Hours)	Grade 11 (Hours)	Grade 12 (Hours)	First Semester	Second Semester	Third Semester	Fourth Semester
Technical		Orientation	Print Reading & Calculations	Print Reading & Calculations	WEL 113: Oxy-Fuel Welding and Cutting I	CSC 110: Intro to Info Technology	QAL 247: Nondestructive Testing II	WEL 230: Shielded Metal Arc III
		Safety	DWV Systems	Fixtures/Faucets/Valves	WEL 114: Shielded Metal Arc I	QAL 237: Nondestructive Testing I	WEL 210: Flux-Cored and Sub Arc I	WEL 234: Shielded Metal Arc V
		Print Reading & Calculations	Pressure Systems	Water Heating	WEL 115: Oxyfuel Welding & Cutting II	WEL 120: Gas Metal Arc I	WEL 213: Gas Tungsten Arc III	WEL 247: Welding Design
		Pipe Joining	Fixtures/Faucets/Valves	Pumps	WEL 116: Shielded Metal Arc II	WEL 124: Gas Metal Arc II	WEL 214: Flux-Cored and Sub Arc II	WEL 233: Shielded Metal Arc IV/Pipe Welding
		DWV Systems	Water Heating	Employment Skills		WEL 123: Gas Tungsten Arc I	WEL 219: Gas Tungsten Arc IV	WEL 239: Shielded Metal Arc VI?Pipe Welding
		Pressure Systems	Miscellaneous	Management Skills		WEL 129: Gas Tungsten Arc II	WEL 240: Basic CNC Programming	WEL 248: Robotic Welding
		Job Seeking/Keeping Skills	Job Seeking/Keeping Skills	Plumbing codes & home systems OSHA				
English	College Prep English 9	College Prep English 10	College Prep English 11	College Prep English 12	ENL 111: English Comp 1	ENL 201: Technical & Professional Communication		
Math	Algebra I	Geometry	Algebra II	Trigonometry	MTH 124: Technical Algebra & Trig I MTH 180: College Algebra and Trig I			
Science	Accl Integrated Science	Biology	Chemistry	Physics				
Humanities	Citizenship	World Cultures	American History I	American Government				ECO 111: Principles of Macroeconomics
Other	Physical Education	Physical Education	Physical Education	Physical Education	EDT 107: Blueprint Reading	FIT: Elective: Fitness		
	Health	Health	Driver's Ed Theory					

46.0503 Plumbing Technology / Plumber Plumbing & Heating

DEMONSTRATE PERSONAL SAFETY IN THE TRAINING LABORATORY

Demonstrate and follow rules for fire safety.
Demonstrate and follow shop rules and housekeeping safety.
Demonstrate and follow rules for SDS and material handling.
Demonstrate and follow rules for PPE (eye, hearing, respiratory).
Identify, maintain and safely use basic hand tools.
Demonstrate and follow rules for power equipment safety.
Demonstrate, maintain and follow rules for portable electric and power tool use.
Demonstrate and follow safety rules as they relate to E.C.P. (Exposure Control Procedures: blood borne pathogens etc.).
Demonstrate knowledge of the Occupational Safety Health Act (OSHA) and state its purposes.

READ BLUEPRINTS AND SKETCHING OF PIPE SYSTEMS

Identify and interpret various drawings, lines, specification and dimensions.
Identify the three basic views of a drawing.
Identify piping systems according to color-coding.

DEMONSTRATE KNOWLEDGE OF PIPE SPECIFICATIONS AND SYSTEMS

Identify pipe and connections according to specification.
Demonstrate knowledge of plumbing standards codes and specifications.
Read and interpret plumbing specifications.
Explain the effects and corrective measures for thermal expansion in piping system.

Explain types and applications of pipe insulation.
Identify various metals and specification process used in the plumbing and heating industry.

IDENTIFY AND INSTALL VALVES

Identify usage and installation of backflow prevention devices
Identify and install types of valves that start, stop and regulate flow.
Identify valves that relieve pressure.
Explain the factors that influence valve selection.
Disassemble and assemble various types of valves (such as gate valve globe valve and flush valve)

DEMONSTRATE SKILL IN WORKING WITH COPPER PIPE

Demonstrate skills in joining cutting and bending various types of copper pipe tubing: solder compression flare swage press fit.
Prepare and braze a joint.
Perform tests on soldered and brazed joints according to plumbing code.

DEMONSTRATE SKILL IN VARIOUS TYPES OF PLASTIC PIPE AND TUBING

Measure cut and assemble PVC CPVC and ABS.
Measure cut and assemble PEX plastic tubing and PE and HDPE.
Fabricate a crimp joint connection.
Fabricate a tubing type joint.

INSTALL PIPE HANGERS AND SUPPORTS

Use hangers to secure horizontal and vertical pipe lines to masonry metal and wood.

Layout anchor install various carrier fixture.

INSTALL WATER DISTRIBUTION LINES

Perform a tests on water distribution lines that meets plumbing code.
Rough-in water supply lines for bathtubs wall mounted urinals water closets clothes washer kitchen sink lavatories according to manufacturer sheet.
Demonstrate knowledge of a water distribution whirlpool tub installation.

DEMONSTRATE SKILL IN WORKING WITH STEEL PIPE

Thread steel pipe with an adjustable die power threading machine non-adjustable die.

Measure cut ream assemble and test various types of steel piping.
Adapt steel pipe to other piping materials.

DEMONSTRATE SKILL IN WORKING WITH CAST IRON PIPE

Identify and use tools for working with cast iron pipe.
Measure and cut cast iron soil pipe with a chain cutter.
Assemble cast iron to various pipe types with no hub Fernco rubber gasket joints

DEMONSTRATE KNOWLEDGE OF A BUILDER LEVELER

Identify and set up a builder s level.
Set up the level shoot elevations and grade pipe.

BUILD DRAINS AND SEWERS

Lay out and establish grade/slope for drain lines.
Install backwater prevention valves.
Test a drain and sewer according to plumbing code.
Install air admittance valves.
Rough-in waste lines and vents for bathtubs lavatories dishwashers water closets showers bidets and urinals according to manufacturers specification.

INSTALL FIXTURES

Install tank-type water closets.
Install bathtubs.
Install wall mounted lavatories.
Install wall mounted urinals.
Install kitchen sink.
Install prefabricated shower base drains.
Install built-in lavatories.
Install flush valve-type water closets.

Install traps and cleanouts.

INSTALL APPLIANCES

Describe the installation of a dishwasher.
Describe the installation of an electric water heater.
Describe the installation of a gas water heater.
Describe the installation of a clothes washing machine.
Describe the installation of other water heaters (for example oil tankless or heat pump).

Describe the installation of a water re-circulating pump.
Describe the installation of al garbage disposal unit.
Describe the installation of a sump pump.
Describe the installation of a sewerage pump.

INSTALL VENTS

Install, and identify soil or waste back and loop vent.
Demonstrate knowledge for installation of a vent terminals (roof-flashing).

MAINTAIN PLUMBING SYSTEMS

Disassemble "P" traps and clear obstructions from a sink drain.
Remove obstructions from main drain lines and water closets.
Repair/replace lavatory trap drains and leaking water faucets or valves.

Repair leaking shower valves.
Repair water flush valves on water closets.
Replace a damaged section of galvanized water plumbing system.

Explain how to thaw frozen pipes.
Repair/replace any type of water closets.
Replace all components in a tank style toilet.

PERFORM TESTS ON PIPING SYSTEMS

Perform head pressure tests.
Perform hydrostatic tests.
Perform leak tests on gas supply lines.

PERFORM ADVANCED PIPE FABRICATION

Calculate simple piping offsets.

Calculate three-line 45° equal and unequal spread offsets.
Convert center back throat and/or face measurement to an end measurement.

WORK WITH PRESSURE BOILERS

Identify and explain various boiler fittings and accessories including thermal expansion devices.

Discuss the various types of boilers.
Identify and explain various boiler steam and hot water fittings and piping.
Identify and explain feed water accessories.
Identify and explain steam and hot water accessories.

Explain the operation of a boiler and its various controls.
Explain the operation of the draft controls.
Identify and explain boiler safety.

WORK WITH HYDRONIC HEATING SYSTEM

Describe and design a hydronic heating systems.
Describe and design a primary and secondary loops.

Calculate lay-out and design a radiant floor system.

DEMONSTRATE SAFE USE OF LADDERS AND SCAFFOLDS

Identify, setup, inspect and use different types of ladders and scaffolding used on a worksite.

EMPLOYABILITY SKILLS

Complete a job application.
Compose a resume, reference list and cover letter.
Prepare for a job interview.
Compose various employment letters, i.e. thank you and resignation.
Participate in online career search & develop online accounts.

Create a career portfolio.
Establish career goals and develop a plan to meet goals.

STUDENTS OCCUPATIONALLY & ACADEMICALLY READY



- *Earn college credits which will save you money on tuition*
 - *Shorten college attendance*
 - *Get on the right career path*
 - *Enter the job market prepared*
 - *Get a consistent education*
- *See your CTC School Counselor for More Information*

TO QUALIFY CTC STUDENTS MUST:

1. Earn a high school diploma, achieve a minimum 2.5 GPA on a 4.0 scale in your CTC program and complete the PDE approved Program of Study.
2. Earn the industry certifications offered by your program (if applicable).
3. Achieve Competent or Advanced on the NOCTI End of Program Assessment.
4. Achieve proficiency on ALL of the Program of Study Competency Task List.
5. Provide documentation to Postsecondary Institution that you have met all of the requirements!

Find out more about the colleges offering course credits you can earn while attending RMCTC. Go to collegetransfer.net, search: PA Bureau of CTE SOAR Programs, and find your program by CIP Code.



**To receive college credits, qualifying students have three years from their date of graduation to apply and matriculate into the related career and technical program at a partnering institution.*

**READING MUHLENBERG CAREER AND TECHNOLOGY CENTER
PLUMBING & HEATING**

General Student Safety Contract

This is to certify that I, _____, have been instructed in, and understand, the following safety components of this technology education class.

Safety Rules:

Date Instructed

- | | |
|--|-------|
| Use shop only when directed by the teacher. | _____ |
| Never work with chemicals without checking labels carefully and only when directed by the teacher. | _____ |
| Place broken glass and disposables in appropriate designated containers. | _____ |
| Report any accident, incident, or unsafe situation to the teacher. | _____ |
| Confine long hair and confine loose clothing whenever working with equipment, flame, or chemicals. | _____ |
| Wash hands before leaving the shop. | _____ |
| Report all accidents to teacher immediately. | _____ |

Location and proper use of the following safety equipment:

- | | |
|--|-------|
| Fire extinguisher | _____ |
| Eye protective devices (goggles, face shields) | _____ |
| Eyewash | _____ |
| Deluge/drench shower | _____ |
| Chemical dispensing containers | _____ |
| Material Safety Data Sheets (MSDS) | _____ |
| Master shut-off for gas, electricity | _____ |
| Heat sources (Soldering equipment, etc.) | _____ |
| First-aid kit | _____ |
| Electrical equipment | _____ |
| Emergency telephone procedures | _____ |

**READING MUHLENBERG CAREER AND TECHNOLOGY CENTER
PLUMBING & HEATING**

Safety procedures for the following situations:

- Fire _____
- Chemical splash to the body _____
- Eye emergency _____
- Chemical spill _____
- Burns _____
- Open Wounds _____

Other concerns

Wearing vision corrective contact lenses (yes _____, no _____)

Response to Student Violations of Rules

- First Offense Verbal warning from teacher; record kept of the infraction as incident report.
- Second Offense Review of rule involved; parent/guardian and student sign agreement that the rule is understood and will be followed.
- Third Offense Suspension from the shop area and assignment to the theory area pending successful conference with parent/guardian and the teacher.
- Further Offenses To be determined by the School Administration.

To the Parent/Guardian:

Your son/daughter will be working in a shop area where safety is of utmost importance. In order to ensure his/her personal safety, it is important that the above rules are followed. Failure to do so may result in the student's removal from the shop area and assignment to a theory area. I understand these rules and agree that my son/daughter will abide by these and all other written and verbal instructions given in class.

Date: _____ Teacher: _____

Date: _____ Parent(s)/Guardian: _____

Date: _____ Student: _____

GRADE REPORTING

Purpose: The intent of this grading procedure is to provide a student grade that accurately reflects student achievement. Progress will be measured in the areas of work ethics, and knowledge. All activities and assessments that are required as the student progresses through their skills (learning guides) will be reflected within the knowledge grade. Students will be evaluated according to established program standards on an individual basis. The ClassMate grading software automatically calculates student grades using the following formula:

Work Ethic 40%
Knowledge 60%
100%

Teachers must be able to justify grade percentages in the event of inquiries or concerns.

Interpreting a Grade: The two levels of evaluation are described below:

Work Ethics Grade (40%): Each school day, every student receives a Work Ethics or daily grade. Criteria that comprise these grades are safety, student behavior, preparation/participation, productivity or time on task, professional appearance and extra effort. The Work Ethics grade range is based on a 0 to 10 model that students may earn each day depending on how many criteria they satisfactorily meet.

NOTE: Impact of Absenteeism, Tardiness/Early Dismissals - The direct effect of absenteeism on a students' grade will be through the Work Ethic component of the grading formula. If a student is Tardy or has an Early Dismissal the Work Ethic grade will automatically be defaulted to a five (5) from a possible ten (10) points. The instructor may change this value as they see fit.

Knowledge Grade (60%): Throughout the marking period, a student's cognitive knowledge about various career-specific topics will be evaluated and recorded by the instructor. Examples of knowledge activities include: lab/shop assignments, homework, quizzes, tests, and research activities. The Knowledge grade range is based on actual points earned divided by the total accumulative points.

Task tracking: For the purpose of students earning a job title associated with their program are, teachers track students' skill/task work. Teachers identify specific criteria to evaluate each task performed, ranging from a 0 to 5 (not completed to mastery). Students must earn a 4 or 5, in order to credit the task towards earning the specific job title. Students have the opportunity to revisit a task multiple times until successfully receiving credit. The job titles a student earns will be listed on the student's RMCTC certificate that is awarded at Senior Recognition Night.

GRADE REPORTING (continued)

CTC Letter Conversion Table Grade Letter

100 – 97 A+
96 – 93 A
92 – 90 A-
89 – 87 B+
86 – 83 B
82 – 80 B-
79 – 77 C+
76 – 73 C
72 – 70 C-
69 – 65 D
64 – under F

Final Grade average is based on the student's four (4) numerical marking period grades. The final average will directly align to the letter conversion table listed above.

If a student has three (3) marking period grades of "F" the teacher shall give appropriate consideration to that student not passing for the year. If a student is on an **upward trend** at the end of the school year, this **may** justify having the student pass for the year. If the opposite is true, and the student is on a **downward trend**, the student **should** receive a failing grade.

The individual teacher must evaluate each student's achievement in terms of the expected goals for their program area.

Failure to complete assignments, frequent lateness or absence, and demonstrated indifference to school are major contributors to student failure. **Blatant refusal** to attempt or to complete a significant number of course requirements may, by itself, justify a final course grade of "F".

The following divisions are given as a guide to recording and interpreting the grading system. It remains for each teacher to objectively and fairly rate each student, not based upon personality, but performance.

Determination of Grades: Teachers will give thorough consideration using all grading components in determining students' grades to both class work and test results.

A = Excellent

1. This grade represents **superior work** and is distinctly an honor grade.
2. The excellent student **has reached all course objectives** with high quality achievement.
3. The excellent student displays unusual effort and works willingly and effectively in reaching required objectives.

GRADE REPORTING (continued)

B = Good

1. This grade represents **above average** quality achievements.
2. The good student **has reached a large majority of course objectives.**
3. The good student is industrious and willing to follow directions.

C = Average

1. This grade represents **acceptable** quality achievements.
2. The average student **has reached a majority of course objectives.**
3. The average student is cooperative and follows directions, yet extra effort and improvement are needed for more complete mastering of the material.

D = Passing

1. This grade represents a **minimum acceptable** quality achievement.
2. The student is performing below-average work and **has not reached a majority of course objectives.**
3. This achievement level indicates there is a great need for improvement, daily preparation and improved dedication and attendance.

F = Failure

1. This grade represents **unacceptable** quality achievements.
2. The failing student **has not reached necessary course objectives.**
3. The failing student has not attempted to complete assignments, is constantly late or absent, and generally has failed to accomplish the fundamental minimum essentials necessary in the program area.
4. It may be noted that generally a student does not fail because of a lack of ability; failure may be caused by laziness, non-dedication, or a general disregard to directions of the teacher and the unwillingness to use whatever ability he/she possesses.

Incomplete Grades: Incomplete grades must be updated no later than ten (10) days from the close of the marking period. As soon as the work is completed and the grade is available, it must be reported to the appropriate person.

Failures: Students who receive a failing final grade in a program area are permitted to repeat that program, but are urged not to do so for obvious reasons. If this situation presents itself, students and parents are advised to consider an alternative program which is probably more suited to the student's true interests and aptitudes and not merely satisfying a short-term or unrealistic desire.

Attendance and its Impact upon Grades: The importance of regular school attendance and its positive impact upon a student's performance grade cannot be overstated. If a student is absent, he or she does not have the opportunity to keep pace with their classmates and must work independently to acquire the information missed during any absence. Regardless of how well a student performs when he/she is present, habitual absenteeism usually results in a failing performance grade. This situation is not unlike the conditions of the business or industry for which the student is being trained.

GRADE REPORTING (continued)

Make up Work for Absences: Students have the opportunity to make-up school work due to an illness/being absent from school. **PROVIDED** their absence is excused. Students must submit make-up work within the following timelines:

1. One (1) to three (3) days excused absences – five (5) school days to complete assigned work.
2. Four (4) or more days excused absence – ten (10) school days to complete assigned work.

All work missed through unexcused absences will be graded as a zero

Report Cards (See Progress Reports): Students will receive a report card from the sending school district which will reflect the student's grade from their Career & Technology program. Students will also receive a report card from RMCTC reflecting their program grade and Social Studies grade, where applicable. In addition, grades are available on the parent portal.

Senior Recognition Night: Reading Muhlenberg Career & Technology Center hosts an annual Senior Recognition Night, which honors our senior students. During this event, all senior students in attendance are recognized and may also receive awards that they have earned relevant to their accomplishments while attending Reading Muhlenberg CTC.

PARENT PORTAL: The Parent Portal is available for parents/guardians to view your child's progress by accessing the RMCTC District Portal on the School's web-site; www.rmctc.org. This will give you up to date information related to your child's attendance, grades (work ethic and knowledge), discipline referrals and schedule. In order to use this resource, you must provide the CTC with a current email address and register online.

Log onto www.rmctc.org, click on "**Parents**", then click on "**parent portal**" which will navigate you to the link where you will log into the portal. You will have to "**create an account**" on your first visit to the portal by using your email address (you need to use the email address you provided us on your child's application) and setting up a password. Once registered you may return at any time to view your child's information. Please utilize our website, to track your child's progress by viewing their grades and attendance, along with any discipline action. In addition you will be able to review your child's report cards & progress reports as soon as they are available. You also have the ability to select the option to receive email notifications for specific instances that you choose. You can choose to receive an email automatically if your child is absent/tardy or both, if your child receives a discipline referral or suspension and if your child receives a specific grade.

CAREER & TECHNICAL STUDENT ORGANIZATIONS (CTSO)

All students enrolled in Reading Muhlenberg Career & Technology Center have the opportunity to participate in at least one Career & Technical Student Organization (CTSO) while enrolled at the CTC. Students who become members in these co-curricular organizations have the opportunity to participate in team building, leadership, community service and social events.

Students also have the opportunity to attend skill competitions where the skills they have learned are "put to the test" against other competitors. These competitions include testing of knowledge and hands-on skills in a variety of trade and leadership events. Students who are fortunate enough to win their events at a district or state competition are able to compete at the national level and travel to locations such as Louisville, KY, Kansas City, MO, San Diego, CA, Orlando, FL, and Cleveland, OH.

SkillsUSA



<http://skillsusa.org>

SkillsUSA is a national organization of students, teachers and industry representatives who are working together to prepare students for careers in technical, skilled and service occupations. SkillsUSA provides quality education experiences for students in leadership, teamwork, citizenship and character development. It builds and reinforces self-confidence, work attitudes and communications skills. It emphasizes total quality at work, high ethical standards, superior work skills, life-long education, and pride in the dignity of work. SkillsUSA also promotes understanding of the free-enterprise system and involvement in community service.

Home Builders of America (HBA)



<http://www.pabuilders.org/>

The purpose of the HBA Student Chapter Program is to give students first hand exposure to the "real world" of the building industry and an invaluable complement to their academic studies.

National Technical Honor Society (NTHS)



www.nths.org

NTHS is the acknowledged leader in the recognition of outstanding student achievement in career and technical education. Over 2000 schools and colleges throughout the U.S. and its territories are affiliated with the NTHS. Member schools agree that NTHS encourages higher scholastic achievement, cultivates a desire for personal excellence, and helps top students find success in today's highly competitive workplace. NTHS members receive: the NTHS membership certificate, pin, card, window decal, white tassel, official NTHS diploma seal, and three personal letters of recommendation for employment, college admission, or scholarships. Students will have access to our online career center including these valuable services: MonsterTRAK, Wells Fargo, Career Safe, and Career Key.

READING-MUHLENBERG CAREER & TECHNOLOGY CENTER

WORK BASED LEARNING Cooperative Education & Internships RULES / GUIDELINES

1. All Work Based Learning (WBL) students must have school WBL forms completed before starting the job/internship, and any student less than 18 years of age must also have a transferable work permit.
2. **ABSENT FROM SCHOOL????? – NO WORK!!!!!!!**
 - If you are absent from school in the morning, you may **NOT** go to work in the afternoon. **YOUR JOB IS PART OF YOUR SCHOOL DAY.** If you are at a **medical, social service, or court appointment** in the AM, you **may** go to work that day. However, you must bring a note **from the agency where you were**, to your attendance secretary, the next school day.
 - If you are ill, **YOU** must call your employer to inform him/her that you will not be reporting for work.
 - **IMPORTANT:** If your name is going to appear, for any reason, on your sending school absentee list, you must also **report off to Mrs. Albarran @ 610-921-7301. Failure to report off will result in removal from WBL.**
 - If **school is closed** for a holiday, in-service day, or a snow day, you **DO** go to work on those days, if you are scheduled.
 - If you are suspended **out of school** you may not work at your WBL job. This includes jobs that are scheduled with after school hours.
 - **REPETITIVE ABSENCES** at school or work will result in your removal from Work Based Learning.
3. All WBL students are required to **report to the CTC every Monday.** Any additional classroom time is at the discretion of your program area teacher. You are responsible for communicating this to your employer. On the **first Monday of each month**, immediately upon arrival, report directly to **Student Services**, where you will sign in with Mrs. Baller. Co-op students will record hours and earnings, and then return to your program area for the remainder of the school day. **Don't forget to bring your check stubs to record your hours and earnings!** Internship students will record hours. **If you miss two Monday meetings, you will be removed from WBL.**
 - Any violations of these rules will result in the following **discipline action:**
 - 1ST violation – VERBAL WARNING**
 - 2nd violation – REMOVAL FROM WORK BASED LEARNING**
4. When at work you are guided by and are responsible to your employer. Be sure to follow all of the Employers' rules and regulations because you will be terminated for the same reasons as any other employee.
5. If your work experience is terminated for any reason, you must return to school the next day, and inform your CTC teacher and the Work Based Learning Coordinator.
6. If you wish to terminate your employment, you must discuss this with your teacher and the Work Based Learning Coordinator, and leave the job properly by giving the employer a two-week notice and a letter of resignation.
7. If you have any questions concerning the rules and guidelines of Work Based Learning, please contact the WBL coordinator at 610-921-7337.

STUDENT SIGNATURE

PARENT/GUARDIAN SIGNATURE