

PENN COLLEGE
DUAL 
ENROLLMENT

 **COMPREHENSIVE
COURSE GUIDE**

**FUTURE MADE
BY HAND**



TABLE OF CONTENTS

ADVERTISING ART/GRAPHIC DESIGN	2
AIR CONDITIONING & REFRIGERATION	2
ARCHITECTURAL TECHNOLOGY	2
AUTOMOTIVE	2
BIOLOGY	3
BUILDING CONSTRUCTION	3
BUSINESS	3
CHEMISTRY	3
COLLISION REPAIR (AUTO BODY)	4
COMPUTER-AIDED DRAFTING	4
COMPUTER TECHNOLOGY	5
CULINARY ARTS/HOSPITALITY	5
DIESEL	6
ELECTRICAL	6
ELECTRONICS/ENGINEERING TECHNOLOGY	6

TABLE OF CONTENTS

EMERGENCY MANAGEMENT & HOMELAND SECURITY	7
ENGLISH	7
HISTORY	7
HORTICULTURE	8
INDUSTRIAL DESIGN	8
MACHINIST GENERAL & MACHINE TOOL TECHNOLOGY	8
MEDICAL TERMINOLOGY	8
POLYMER ENGINEERING TECHNOLOGY	9
POLITICAL SCIENCE	9
PSYCHOLOGY	9
SOCIOLOGY	9
WELDING	10
GENERAL EDUCATION COURSEWORK	11
SOPHOMORE-APPROVED COURSES	11
SENIOR-ONLY COURSES	11

This document provides information about all courses offered within Penn College Dual Enrollment. All courses are subject to availability and pending secondary teacher approval. New partners start with technical program courses for the first year, with the option to add general education courses in subsequent years.

ADVERTISING ART/GRAPHIC DESIGN

ART145: History of Graphic Design

Study of the history of graphic design and of the ways in which the past will help students better understand current and future design applications. Emphasis on research of different design movements, such as the Victorian and Art Nouveau Graphics, Postmodern Design, the Arts and Craft Movement, and the computer graphics revolution.

3 Credits: 3 Hour Lecture

Enrollment requirement: (C) minimum overall GPA

AIR CONDITIONING & REFRIGERATION

ACR111: Introduction to Refrigeration

Introduction to basic refrigeration systems. Topics include proper and safe use of tools, identification of materials, methods of assembling refrigeration systems, and proper handling of refrigerants. Emphasis on basic system components: evaporators, compressors, condensers, and test equipment.

5 Credits: 3 Hour Lecture, 6 Hour Lab

Enrollment requirement: (C) minimum overall GPA

PLH113: Mechanical Systems Design & Operation

Study of fluid and gas conveyance within residential construction, with emphasis on the selection and application of tools and materials appropriate for code approved system installation and operation. Additional topics include the study of dynamic and static forces impacting fluid transfer, introductory plan and specification development, and basic material and cost estimating.

4 Credits: 2 Hour Lecture, 6 Hour Lab

Enrollment requirement: (C) minimum overall GPA

ARCHITECTURAL TECHNOLOGY

ACH135: Architectural Computer Aided Drafting

Introduction and practical application of Computer-Aided Drafting (CAD) techniques and standards used to create two-dimensional architectural drawings. Focus on hardware and software components, operating systems, file management, CAD commands, system variables, drawing setup, creation of lines and shapes, and the editing, saving, and printing of drawings, and use of campus information technology resources. Advanced topics include external references, layouts, paper space, attributes, dimensioning, text, and the creation of a symbols library.

3 Credits: 2 Hour Lecture, 3 Hour Lab

Enrollment requirement: (C) minimum overall GPA

AUTOMOTIVE

AMT109: Automotive Electrical Fundamentals

Study of the electron theory of electricity. Topics include Ohm's law and Kirchoff's law; AC and DC principles; series and parallel circuits; test meters; wiring diagrams; basic solid-state devices; circuit analysis; and the concepts of capacitance, inductance, and impedance. Overview of integrated circuits and on-board microcomputers.

3 Credits: 2 Hour Lecture, 3 Hour Lab

Corequisite(s): AMT127 (waiver available)

Enrollment requirement: (C) minimum overall GPA

AMT112: Brake Systems

Fundamentals of brake hydraulics, including theory and operation of servo and non-servo drum brakes, disc and drum brake machining, operation of disc brakes, operation of power assist brakes, and overview of electronic anti-skid brakes.

3 Credits: 2 Hour Lecture, 3 Hour Lab

Enrollment requirement: (C) minimum overall GPA

AMT113: Steering and Suspension

Principles of operation of steering and suspension, rack and pinion steering gears, and conventional steering gears. Study includes the theory of operation of power steering gears, steering geometry, wheel alignment principles, and static and dynamic wheel balancing.

3 Credits: 2 Hour Lecture, 3 Hour Lab

Enrollment requirement: (C) minimum overall GPA

AMT127: Engine Electrical Systems

Principles of engine electrical systems, including testing equipment and procedures. Topics include wiring, connectors, and circuit protection devices; batteries and battery tests; cranking circuits, starter motors, and drives; charging circuits, alternators, and voltage regulators; ignition systems; engine computer controls and electronic fuel injection; and the oscilloscope and other special test equipment.

3 Credits, 2 Hour Lecture, 3 Hour Lab

Corequisite(s): AMT109 (waiver available)

Enrollment requirement: (C) minimum overall GPA

BIOLOGY

BIO103: Human Anatomy and Physiology Survey **

Overview of human anatomy and physiology designed for non-science majors. Emphasis on the relationships between the structures and functions in each body system as well as the interrelationships among all body systems in the maintenance of homeostasis. Laboratory work complements and reinforces lecture materials.

4 Credits: 3 Hour Lecture, 3 Hour Lab

Corequisite(s): ENL111 (waiver available)

Enrollment requirement: (C) minimum overall GPA and (C) minimum overall Algebra I final grade

BUILDING CONSTRUCTION

BCT103: Construction Hand & Power Tools

Survey of hand and power tools typically used to perform construction work. Emphasis on the development of skills needed to effectively perform layout, measurement, cutting, fastening, and finishing operations. Study also includes maintenance of tools and equipment, safe use of hand and power tools, and emerging tool technology.

1 Credit: 0 Hour Lecture, 3 Hour Lab

Sophomore-approved course

Enrollment requirement: (C) minimum overall GPA

BCT109: Framing Principles

Theory and application of framing techniques in residential and light commercial construction. Emphasis on basic principles and skills used in hand and machine woodworking operations.

4 Credits: 2 Hour Lecture, 6 Hour Lab

Corequisite(s): BCT103 and BCT104 (waiver available for BCT104, not available for BCT103)

Enrollment requirement: (C) minimum overall GPA

BCT234: Masonry Principles

Introduction to masonry construction materials and methods, with an emphasis on the terms, definitions, and methods of construction practices related to concrete block, brick construction, and thin masonry veneer. Topics also include the different types of mortar mixes and their strengths and uses, reinforcement of masonry walls, masonry cleaning, weather protection for masonry, and estimating supplies and materials.

5 Credits: 2 Hour Lecture, 9 Hour Lab

Prerequisite(s): BCT103 and BCT104 (waiver available for BCT104, not available for BCT103).

Enrollment requirement: (C) minimum overall GPA

BUSINESS

BIM120: Social Media in Business and Society

Examination of the strategic use of social media for personal, professional, and business communication, advertising, and marketing. Coursework includes using various social media tools, creating and sharing content, and collaborating on group campaigns using social media for social change. Includes analysis of current and emerging social media tools from a personal and business perspective.

3 Credits: 3 Hour Lecture

Enrollment requirement: (C) minimum overall GPA

MGT105: Introduction to Business

Introduction to a variety of business concepts and practices that impact all organizations, as well as the knowledge and skills needed to be successful in an organization. Topics include interpersonal communications, emotional intelligence, economics, accounting, finance and investments. An integrative approach connects topics and provides context within organizational environments, relevance to current business situations, and advances across various fields of business.

3 Credits: 3 Hour Lecture

Sophomore-approved course

Enrollment requirement: (C) minimum overall GPA

CHEMISTRY

CHM100: Fundamentals of Chemistry **

Basic principles of chemistry and its practice in the laboratory. Emphasis on the underlying structure of matter (atoms, ions, molecules) and how structure determines properties. Designed to teach chemistry terminology and symbols, as well as to develop analytical and critical thinking skills. Appropriate for non-science majors needing one term of chemistry or to satisfy a lab science requirement. Also appropriate for those who desire background before taking General Chemistry I (CHM111). No prior knowledge of chemistry is assumed, but some algebra skills are needed.

4 Credits: 3 Hour Lecture, 3 Hour Lab

Sophomore-approved course

Enrollment requirement: (C) minimum overall GPA and (C) minimum overall Algebra I final grade

COLLISION REPAIR (AUTO BODY)

ABC100: Introduction to Non-Structural Collision Repair

Analysis of basic principles and industry best practices, including issues of human and environmental safety. Theory/overview of removing, repairing, replacing, and adjusting outer body panels; straightening and roughing out of damaged steel panels and preparing them for body filler; and repairing aluminum panels. Study of proper replacement of corrosion protection to the repaired panels and adjustment of panels for proper fit. Introductory theory of cutting and welding of steel.

2 Credits: 2 Hour Lecture

Corequisite(s): ABC104 (waiver not available)

Enrollment requirement: (C) minimum overall GPA

ABC104: Introduction to Non-Structural Collision Repair Applications

Application of theory, techniques, principles, and industry best practices, including issues of human and environmental safety. Applied skills include removing, repairing, replacing, and adjusting outer body panels; straightening and roughing out damaged steel panels and preparing them for body filler; repairing aluminum panels for proper replacement of corrosion protection; and adjusting panels for proper fit.

3 Credits: 0 Hour Lecture, 9 Hour Lab

Corequisite(s): ABC100 (waiver not available)

Enrollment requirement: (C) minimum overall GPA



COMPUTER-AIDED DRAFTING

CAD120: AutoCAD – Comprehensive

Comprehensive application of 2D and 3D techniques using AutoCAD® software. Topics include the generation, editing, and analysis of geometry in alignment with industry standards with an emphasis on productivity.

3 Credits: 2 Hour Lecture, 3 Hour Lab

Enrollment requirement: (C) minimum overall GPA

CAD122: 3D Parametric Modeling Using Autodesk Inventor®

Study and application of solid and surface modeling using Autodesk Inventor® parametric modeling software. Topics include the generation and editing of mechanical parts and assemblies, analysis of mass properties, rendering and animation, and the development of physical models using rapid prototyping (additive manufacturing) equipment. Also included are basic 3D-to-2D documentation techniques.

3 Credits: 2 Hour Lecture, 3 Hour Lab

Sophomore-approved course

Enrollment requirement: (C) minimum overall GPA

CCD103: Technical Drawing I

Basic principles and skills of drafting as a graphic using the parametric modeling approach. Topics include technical sketching, SolidWorks® CAD operations and procedures, shape description, geometric construction, multiview projection, sectional views, auxiliary views, revolutions, threads and fasteners, and application of dimensions and tolerancing. Other topics include detail views, part drawings, assembly drawings, manufacturing processes, surface finishing, descriptive geometry, and the use of vendor part catalogs. ANSI/ASME drawing standards and practices are emphasized.

4 Credits: 3 Hour Lecture, 3 Hour Lab

Corequisite(s): CCD104 (waiver not available)

Enrollment requirement: (C) minimum overall GPA

CCD104: Detailing I

Technical drawing procedures using SolidWorks® CAD operations in compliance with the ANSI standards to develop finished drawings. Drawing assignments involve technical sketching, shape description, geometric construction, multiview projection, sectional views, auxiliary views, revolutions, threads and fasteners, application of dimensions and tolerancing, detail views, part drawings, and assembly drawings. Other topics will include manufacturing processes, surface finishing, descriptive geometry, and acquiring and using vendor part catalogs. ANSI/ASME drawing standards and practices are emphasized.

3 Credits: 0 Hour Lecture, 9 Hour Lab

Corequisite(s): CCD103 (waiver not available)

Enrollment requirement: (C) minimum overall GPA

COMPUTER TECHNOLOGY

BWM150: Introduction to Web Page Development

Introductory coverage of the Internet and online Web technologies. Skills learned include how to plan, create, and maintain static Web pages.

3 Credits: 3 Hour Lecture

Enrollment requirement: (C) minimum overall GPA and (C) minimum overall Algebra I final grade

CIT160: Introduction to Programming

Introduction to problem-solving techniques, elementary programming, and the application of these techniques in developing structured programs. A current high-level language is used to illustrate the implementation phase of program development.

3 Credits: 3 Hour Lecture

Enrollment requirement: (C) minimum overall GPA and full Penn College math placement test, level 4

CSC132: Introduction to Gaming and Simulation

Introductory topics include historical elements, genres, goals, players, story and world development, production process and roles. Study provides overall view of the game play experience and how that is implemented with various design components. Practical hands-on application includes using a simple game design environment to design and implement simple games.

3 Credits: 3 Hour Lecture

Enrollment requirement: (C) minimum overall GPA.

EET145: Networking I

Fundamental concepts of operation, installation, and configuration of the hardware and operating system software for computer networks. Emphasis on the hands-on, practical experiences needed to service enterprise computing systems used in industry. Network topologies, protocols, cabling systems, and server operating system software installation and service configuration are covered, with an emphasis on entry-level skills for network professionals.

4 Credits: 3 Hour Lecture, 3 Hour Lab

Enrollment requirement: (C) minimum overall GPA and full Penn College math placement test, level 3

CULINARY ARTS/HOSPITALITY

FHD118: Sanitation

Food safety standards, practices and strategies of implementation for the prevention of foodborne illness in the hospitality industry. Hazard analysis and allergens. Completion of a national certification exam with a 75% or higher as a graduation requirement.

1 Credit: 1 Hour Lecture

Enrollment requirement: (C) minimum overall GPA

FHD137: Introductory Baking

Fundamental principles and procedures used to prepare a variety of bakery products and desserts. A study of ingredients and mixing methods for producing various baked goods.

3 Credits: 1 Hour Lecture, 6 Hour Lab

Corequisite(s): FHD118 (waiver not available)

Enrollment requirement: (C) minimum overall GPA



DIESEL

DSM119: Fuel Systems

Basic introduction to the theory and operation of mechanical and electronic fuel injection systems as they apply to the heavy-duty diesel engine field, with a focus on operation, maintenance, troubleshooting and repair, and safety.

2 Credits: 2 Hour Lecture

Sophomore-approved course

Enrollment requirement: (C) minimum overall GPA

DSM141: Heavy Duty Brake Systems

Explanation and theory of brake systems common to heavy duty vehicles and equipment. Selected topics include air, hydraulic, and anti-lock systems with emphasis on troubleshooting and practical applications of repair and maintenance.

2 Credits: 2 Hour Lecture

Sophomore-approved course

Corequisite(s): DSM142 or DSM155 (waiver available)

Enrollment requirement: (C) minimum overall GPA

ELECTRICAL

ELT116: Construction Lab I: Residential

Introduction to residential wiring, plans, specifications, and codes. Theory and lab assignments covering procedures for wiring basic lighting and receptacle circuits, installing special purpose circuits and switching circuits, and producing accurate wiring diagrams. Blueprint reading and the understanding and utilization of the National Electrical Code (NEC) are strongly emphasized in the course.

5 Credits: 3 Hour Lecture, 6 Hour Lab

Sophomore-approved course

Corequisite(s): ELT111 (waiver available)

Enrollment requirement: (C) minimum overall GPA



ELECTRONICS/ENGINEERING TECHNOLOGY

EET114: Introduction to Digital Electronics

Study of basic digital logic devices and systems. Device Symbology, Boolean logic expressions, truth tables and timing diagrams will be examined. Combinational logic circuits and their applications will be analyzed.

3 Credits: 3 Hour Lecture

Corequisite(s): EET115 (waiver not available)

Enrollment requirement: (C) minimum overall GPA

EET115: Digital Circuits Applications

Construction of prototype logic circuits. The measurement of static and dynamic electronic characteristics of devices and systems will be studied.

1 Credit: 3 Hour Lab

Corequisite(s): EET114 (waiver not available)

Enrollment requirement: (C) minimum overall GPA

EET116: Electronic Circuits & Devices I

Introduction to the basic principles of electronics and common solid-state devices. Emphasis on basic electronic parameters such as current, voltage, resistance, inductance, and capacitance. Additional topics include series, parallel, and series/parallel circuits as well as discrete solid-state devices, including rectifying diodes, light emitting diodes, photodiodes, zener diodes, bipolar transistors, and thyristors.

5 Credits: 3 Hour Lecture, 6 Hour Lab

Enrollment requirement: (C) minimum overall GPA and

(C) minimum overall Algebra I final grade

EET124: Engineering, Technology & Society

Introduction to the basic concepts and applications of computer and engineering technologies and the effects on professional and casual users, their employers and employees, and society. Applied skills include the use of current computer technology for data/information collection and organization; visualization, analysis, and interpretation of numeric computations; and the dissemination and presentation of solutions to engineering technology problems.

3 Credits (2 Lecture–3 Lab)

Sophomore-approved course

Enrollment requirement: (C) minimum overall GPA

EMERGENCY MANAGEMENT & HOMELAND SECURITY

BEM101: Introduction to Emergency Management Operations

Introduction to the theories, principles, and organized approaches to emergency management at local, state, and federal levels. Topics include the history of human vulnerability to natural, man-made, and technological hazards; the advent of emergency management professions; and an examination of current emergency response systems.

3 Credits: 3 Hour Lecture

Enrollment requirement: (C) minimum overall GPA

BEM103: The History & Evolution of Emergency Management

Analysis of the history and evolution of emergency management in the United States. Topics trace events that have impacted and motivated change in approach to EM with analysis of the situations within its governing body.

3 Credits: 3 Hour Lecture

Enrollment requirement: (C) minimum overall GPA

ENGLISH

ENL111: English Composition I **

Fundamental writing and research skills with an emphasis on expository writing. Emphasis on analysis, discussion, and practice of writing that explores, explains, and argues. Coursework includes a significant research component.

3 Credits: 3 Hour Lecture

Senior-only course; No mixed classrooms

Enrollment requirement: (C) minimum overall GPA

and Penn College Dual Enrollment English placement test, level 3



HISTORY

HIS116 World History I **

Study of the history of humanity from its beginnings to C.E. (Common Era) 1500. Equal emphasis on the political, economic, and social development of Western and non-Western civilizations.

3 Credits: 3 Hour Lecture

Sophomore-approved course

No mixed classrooms without AP equivalent course (AP World History)

Enrollment requirement: (B) minimum overall GPA

HIS126: World History II **

Study of the history of humankind from A.D. 1500 to the present. Equal emphasis is placed on the political, economic, and social development of Western and non-Western societies.

3 Credits: 3 Hour Lecture

Sophomore-approved course

No mixed classrooms without AP equivalent course (AP World History)

Enrollment requirement: (B) minimum overall GPA

HIS136: United States Survey to 1877 **

Political, economic, and social development of the United States from colonial times through the Civil War and Reconstruction Period.

3 Credits: 3 Hour Lecture

Sophomore-approved course

No mixed classrooms without AP equivalent course (AP United States History)

Enrollment requirement: (B) minimum overall GPA

HIS146: United States Survey from 1877 to the Present **

Political, economic, and social development of the United States from 1877 up to and including the Civil Rights movement.

3 Credits: 3 Hour Lecture

Sophomore-approved course

No mixed classrooms without AP equivalent course (AP United States History)

Enrollment requirement: (B) minimum overall GPA

HORTICULTURE

HRT101: Introduction to Ornamental Horticulture

Overview of the diverse ornamental horticulture industry, including the worldwide scope and economic impact of the industry in today's marketplace. Emphasis on information access through the Internet, trade journals, trade organizations, the horticulture industry, guest speakers, and visitations to various horticultural businesses. Exploration includes products, services, and information used in the industry; production and marketing (wholesale and retail) of horticultural products and services; and traditional and nontraditional career paths within the industry.

1 Credit: 1 Hour Lecture

Enrollment requirement: (C) minimum overall GPA

INDUSTRIAL DESIGN

BIX110: Introduction to Industrial Design

Introduction to industrial design techniques, aesthetic concepts, and practical rendering skills. Integration of aesthetics, ergonomics, material selection, and safety principles into product design. Creative solutions to design problems using two- and three-dimensional renderings in sketches, clay models, and optional castings of designs.

3 Credits: 2 Hour Lecture, 3 Hour Lab

Enrollment requirement: (C) minimum overall GPA



MACHINIST GENERAL & MACHINE TOOL TECHNOLOGY

MTT128: Mill Applications

Introduction to the theory and practical applications of basic metalworking. Emphasis on mill applications, industrial shop safety, material selection, job planning, bench-work, quality control, and inspection. (Manual) Milling machines, hand tools, drill presses, pedestal grinders, band saws, and precision-measuring equipment are used to complete required projects.

4 Credits: 1 Hour Lecture, 9 Hour Lab

Enrollment requirement: (C) minimum overall GPA

MTT129: Lathe Applications

Introduction to the theory and practical applications used to safely set up and operate metal turning engine lathes and conversational computer numerical control (CNC) tool room lathes. Operations such as turning, facing, boring, grooving, drilling, turning tapers, single-point threading, and performing cut-off procedures are implemented.

Three- and four-jaw chucking techniques and turning between centers are used to complete required projects.

4 Credits: 1 Hour Lecture, 9 Hour Lab

Enrollment requirement: (C) minimum overall GPA

MEDICAL TERMINOLOGY

MTR100: Medical Terminology Survey

Introduction to the basic structures and rules of interpreting medical terminology, designed to develop the ability to read, understand, and write the medical language.

1 Credit: 1 Hour Lecture

Sophomore-approved course

Enrollment requirement: (C) minimum overall GPA

MTR104: Basics of Medical Terminology

Foundation for the use of the language of medicine, with emphasis on correct pronunciation and spelling, various word parts, abbreviations and symbols, and terms pertaining to body systems. Etiology, symptomatology, pathology, and diagnostic procedures for identifying various disease processes provide an increased understanding of medically related conditions and procedures.

3 Credits: 3 Hour Lecture

Enrollment requirement: (C) minimum overall GPA

POLYMER ENGINEERING TECHNOLOGIES

PPT116: Polymer Industries

Overview of the polymer industry, including materials and processes. Topics include the many types of career opportunities in the industry, inviting individual interest-based exploration. Discussion also covers the nature of polymer product manufacturers, including size, work environment, and typical processes used.

2 Credits: 2 Hour Lecture

Sophomore-approved course

Enrollment requirement: (C) minimum overall GPA

PPT118: Polymer Processing Survey – Lecture

Introduction to polymer processing techniques, including injection molding, extrusion, blow molding, rotational molding, and thermoforming.

3 Credits: 3 Hour Lecture

Enrollment requirement: (C) minimum overall GPA

POLITICAL SCIENCE

PSC131: American Government – National**

Federal government, its power, and organization. Functions of legislative, executive, and judicial branches. Students examine the historical development of our federal system and analyze the relationships between social forces, government, and political action.

3 Credits: 3 Hour Lecture

No mixed classrooms without AP equivalent course (AP United States Government and Politics)

Enrollment requirement: (B) minimum overall GPA

PSC141: State & Local Government **

State and local government institutions, their functions and responsibilities; intergovernmental relations.

3 Credits: 3 Hour Lecture

No mixed classrooms

Enrollment requirement: (B) minimum overall GPA

PSYCHOLOGY

PSY111: General Psychology **

Introduction to the science of human behavior and mental processes. Students examine the relation between the nervous system and behavior, learning, perception, language, personality, intelligence, and psychopathology.

3 Credits: 3 Hour Lecture

No mixed classrooms without AP equivalent course (AP Psychology)

Enrollment requirement: (B) minimum overall GPA

SOCIOLOGY

SOC111: Introduction to Sociology **

Introduction to the theories, principles, concepts, and major research in sociology. Study includes society's impact on human behavior and consciousness as well as the ways in which individuals and groups affect cultures and their social structures. A comparison of different cultures and subcultures provides an understanding of the relativity and universality of social values, norms, and beliefs.

3 Credits: 3 Hour Lecture

No mixed classrooms

Enrollment requirement: (B) minimum overall GPA



** General Education Courses

WELDING

WEL119: Shielded Metal Arc Welding

Introduction to the principles and practices of basic Shielded Metal Arc Welding (SMAW) using various types of mild steel electrodes in multiple positions with emphasis on the flat and horizontal positions. Development of practical hands-on techniques with various power sources using alternate current (AC) and direct current (DC) polarity.

4 Credits: 1 Hour Lecture, 9 Hour Lab

Sophomore-approved course

Enrollment requirement: (C) minimum overall GPA

WEL133: Flux Cored Arc Welding

Introduction to the principles and practices of Flux Cored Arc Welding (FCAW) using various types of mild steel electrodes in multiple positions. Development of practical hands-on techniques using semi-automatic machines. Focus on the American Welding Society's (AWS) numbering system for FCAW, machine capability, technical terms, gases and their mixtures, and the various types of filler materials.

4 Credits: 1 Hour Lecture, 9 Hour Lab

Enrollment requirement: (C) minimum overall GPA

WEL142: Gas Metal Arc Welding

Introduction to the principles and practices of basic Gas Metal Arc Welding (GMAW) applied to ferrous metals. Development of practical hands-on techniques using various modes of metal transfer and wire electrodes in multiple positions. Focus on GMAW equipment, modes of transfer and welding technique, shielding gases, electrode classifications, and process troubleshooting.

4 Credits: 1 Hour Lecture, 9 Hour Lab

Enrollment requirement: (C) minimum overall GPA

WEL146: Gas Tungsten Arc Welding

Introduction to the principles and practices of basic Gas Tungsten Arc Welding (GTAW) applied to ferrous and non-ferrous metals in various joint configurations in multiple positions. Focus on related equipment, electrical concepts, material properties, arc characteristics, puddle control, and appropriate application of filler materials.

4 Credits: 1 Hour Lecture, 9 Hour Lab

Enrollment requirement: (C) minimum overall GPA



GENERAL EDUCATION COURSEWORK

BIO103: Human Anatomy and Physiology Survey

CHM100: Fundamentals of Chemistry

ENL111: English Composition I *

HIS116: World History I *

HIS126: World History II *

HIS136: United States Survey to 1877 *

HIS146: United States Survey from 1877 to the Present *

PSC131: American Government-National *

PSC141: State and Local Government *

PSY111: General Psychology *

SOC111: Introduction to Sociology *

* No mixed classrooms allowed (unless mixed with AP equivalent course for History, swap these: PSC131, and PSY111)

SOPHOMORE-APPROVED COURSES

BCT103: Construction Hand and Power Tools

CAD122: 3D Parametric Modeling Using Autodesk Inventor

CHM100: Fundamentals of Chemistry

DSM119: Fuel Systems

DSM141: Heavy Duty Brake Systems

EET124: Engineering, Technology, and Society

ELT116: Construction Lab I: Residential

HIS116: World History I

HIS126: World History II

HIS136: United States Survey to 1877

HIS146: United States Survey from 1877 to the Present

MGT105: Introduction to Business

MTR100: Medical Terminology Survey

PPT116: Polymer Industries

WEL119: Shielded Metal Arc Welding

SENIOR-ONLY COURSES

ENL111: English Composition I*

MTH123: Technical Algebra and Trigonometry I*

* No mixed classrooms allowed

How do students benefit from Penn College Dual Enrollment?



TIME AND MONEY

Having earned college credit in high school, participating students can either ease their workload by taking fewer courses in a semester once at college or completing their chosen degree more quickly. In addition, since **tuition is free** for Penn College Dual Enrollment courses, students save money by taking fewer courses to complete their chosen degree. At Penn College, students only pay for the number of credits they take; that means that every Penn College Dual Enrollment credit earned in high school is like a scholarship to Penn College. Save on tuition costs by earning credits in a Penn College Dual Enrollment class.



POSTSECONDARY SUCCESS

Students who successfully complete college coursework while in high school are more likely to complete their chosen degree and graduate from college on time.



CONFIDENCE

Students gain experience with rigorous college coursework in a supportive and familiar setting – their high school or CTC. They learn that they **can** be successful at the next level!



CONNECTION

Our Penn College Dual Enrollment classrooms connect students to the “college experience.” They visit Penn College’s campus, tour the facilities, become familiar with college-level services and resources, and interact with our Penn College faculty and students.

EXPERIENCE ACQUIRED

OUR SECONDARY PARTNERS

Adams County Technical Institute
Admiral Peary Area Vocational-Technical School
Benton High School
Berks Career & Technology Center
Bethlehem Area Vocational-Technical School
Bloomsburg Area High School
Bradford Area High School
Carlisle High School
Central Montgomery County Technical High School
Central Pennsylvania Institute of Science & Technology
Central Westmoreland Career & Technology Center
Chester County Technical College High School
 Brandywine Campus
 Pickering Campus
 Pennock’s Bridge Campus
Clearfield County Career & Technology Center
Columbia-Montour Area Vocational-Technical School
Cumberland Perry Area Career & Technology Center
Danville Area High School
Dauphin County Technical School
Dover Area High School
Eastern Westmoreland Career & Technology Center
Fayette County Career & Technical Institute
Franklin County Career & Technology Center
Greater Altoona Career & Technology Center
Jersey Shore Area High School
Juniata County School District
 East Juniata High School
 Juniata High School
Keystone Central School District
 Central Mountain High School
 Bucktail High School
 Keystone Central Career and Technical Center
Lancaster County Career & Technology Center
Lycoming Career & Technology Center
Mahanoy Area High School

Mifflin County Academy of Science & Technology
Mifflinburg Area High School
Milton Area High School
Milton Hershey School
Monroe Career & Technical Institute
Montgomery Area High School
Montoursville Area High School
Northern Tier Career Center
Northern Tioga SD - Williamson High School
Northumberland Co. Career & Technology Center
Red Lion Area High School
River Valley High School
Schuylkill Technology Centers
Selinsgrove Area High School
Seneca Highlands Career & Technology Center
South Williamsport Area High School
Southern Columbia Area High School
Southern Tioga School District
North Penn - Liberty High School
North Penn - Mansfield High School
St. John Neumann Regional Academy
Sullivan County High School
SUN Area Technical Institute
Susquehanna County Career & Technology Center
Troy Area High School
Upper Dauphin High School
Venango Technology Center
Warren County Career Center
Warrior Run High School
Wellsboro High School
West Shore School District
 Cedar Cliff High School
 Red Land High School
Williamsport Area High School
York County School of Technology

WELCOMING OUR NEW SECONDARY PARTNERS 2024-25

Beaver County Career & Technology Center
Bucks County Technical High School
Eastern Center for Arts and Technology

Mercer County Career Center
Shikellamy High School
Somerset County Technology Center

**MICHAEL J. HUDOCK, SR.
CENTER FOR ACADEMIC
EXCELLENCE**

Davie Jane Gilmour Center, Room 1049
Pennsylvania College of Technology
One College Avenue
Williamsport, PA 17701-5799 USA

secondarypartnerships@pct.edu
570.320.5228



Pennsylvania College of Technology is an accredited institution and a member of the Middle States Commission on Higher Education (MSCHE). Pennsylvania College of Technology's accreditation status is Accreditation Reaffirmed. The Commission's most recent action on the institution's accreditation status on June 23, 2022, was to reaffirm accreditation.

The Middle States Commission on Higher Education is an institutional accrediting agency recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation.

Penn College operates on a nondiscriminatory basis.

All data from 2023-24 sources.