

CAREER AND TECHNICAL EDUCATION (CTE)

Bradford Area High School is a comprehensive high school. This means that all students, regardless of future education goals, have the opportunity to pursue coursework in the Career and Technical Program without leaving the school campus and traveling to an off-site Career Technical Center.

Traditionally, career and technical programs are seen as preparing students for employment immediately after high school or following the completion of a two-year technical college program. **If your future goals include skilled, high paying employment immediately or within a few years of graduation from high school**, you should consider enrolling in a Career and Technical Program.

Because Bradford High School provides career and technical educational opportunities in house, students with a wide range of future career interests ranging from medicine to engineering to business management, which typically require at least four year college degrees, should also consider enrollment in a Career and Technical Program.

ATTENDANCE OPTIONS

Career and technical learning is based on competency. That means that as you learn theory and acquire skills, you move on through the programs and expand your skill set in your chosen field. Students prepare for specific jobs and earn industry certifications by completing coursework tailored to the responsibilities of those jobs.

Because students have different levels of ability and motivation, some will accomplish more than others in any given year of study. The BAHS CTE program accommodates all students because each student progresses at his or her own pace.

3 Years

Most students enroll in Career and Technical Courses for three years. This prepares you for immediate employment or further education. Three years will give you the opportunity to learn the basics, acquire some advanced skills, and earn licenses or certifications. When the three-year option includes a Cooperative Education experience, it serves as an even more valuable transition between school and career.

1 Year or 2 Years

If you are looking for alternatives to the three-year program, you may still want to consider the Career and Technical Program. You may choose to complete tasks that lead to specific job competencies (state inspection license for instance). Another option might be to gain a broad technical exposure to your chosen field in preparation for post-secondary education. For example, a student planning on pursuing a college degree in engineering might consider a year of hands-on learning in the Electrical Occupations, Machine Technology, Drafting Technology, or Computer Maintenance programs.

If you are seeking employment immediately after high school or within a few years of graduation, a three-year program is your best choice. On the other hand, a one- or two-year program could give you a great background for post-secondary education. The Bradford High Career and Technical Program is a great option for all students!

AUTOMOTIVE TECHNOLOGY

Automobiles are something we depend on in everyday life. Anyone whose car has broken down understands the importance of the auto technician's job. The ability to make a quick and accurate diagnosis is one of the technician's valuable skills. It requires good reasoning ability and a thorough knowledge of automobiles. Specialized classroom and shop experiences are designed to provide instruction in all critical systems and components of automobiles. This program is working toward offering students certification through National Institute for Automotive Service Excellence (A.S.E.). A.S.E. certification is the industry recognized standard of excellence for automotive service technicians. Students are taught using A.S.E. approved textbooks, service and technical manuals, and online software. Students will also be prepared to participate in the Pennsylvania State Inspection Certification Program. Upon successful completion of the 360 hour Automotive Technology Course, students will have the opportunity to obtain a Pennsylvania State Inspection License, with additional testing provided by the Bradford Area School District, free of charge, beginning the fall of 2008. The sequence of classes is as follows:

Automotive Technology I	Grade 10, 11, 12	3 Units - 3 Class Periods Per Day
Automotive Technology II	Grade 11, 12	3 Units - 3 Class Periods Per Day
Automotive Technology III	Grade 12	3 Units - 3 Class Periods Per Day

Industry Certifications:

A.S.E /Pennsylvania State Inspection

An individual graduating from this program could pursue the following career paths:

- General Technician
- Lubricating Specialist
- Alignment/Suspension Technician
- Driveline Technician
- Electronic Technician
- Parts Sales
- Service Manager

Opportunities for Postsecondary Education:

- Northwestern College
- Pennsylvania College of Technology
- Ohio Technical College
- Universal Technical Institute

ACCOUNTING, BUSINESS, AND MARKETING EDUCATION

Students may choose to enroll in Accounting, Business, and Marketing Education courses for a variety of reasons. They may want to learn about investments, develop computer skills, or learn how to manage their own business. Some students may study business because they intend to go to work immediately after graduating from high school and others may pursue a college degree in business management, computers and information technology, accounting, or many of the other related fields. Regardless of your intent, business education classes provide life-long lessons that will benefit you as a consumer and as you enter the workforce.

CAREER AND TECHNICAL COURSES

These courses are designed as Full-time (3 period per day) Career and Technical courses. Students wishing to enroll in these courses as one period electives should discuss this option with their guidance counselor.

Suggested sequences of courses is as follows:

10th or 11th Grade – Accounting Technology Program

Accounting I
Business Training
Computer Applications I

11th or 12th Grade – Accounting Technology Program

*Accounting II
Micro Accounting I (F)
Micro Accounting II (S)
Law and You I (F)
Law and You II (S)

10th or 11th Grade – Administrative Assistant Program

Accounting I
Business Training
Computer Applications I

11th or 12th Grade –Administrative Assistant Program

Computer Applications II
Computer Applications III
Law and You I (F)
Law and You II (S)

10th or 11th Grade – Marketing Technology Program

Marketing Technology I
Fashion and Visual Merchandizing
Computer Applications I

11th or 12th Grade – Marketing Technology Program

*Entrepreneurship & Management
*Retail Lab Experience
Sports Management and Marketing

Accounting Technology Program

(Two Year Career and Technical Program)

This program is a must for any student planning a career in accounting or business management. It provides the building blocks to enter two and four year business programs and ultimately careers in accounting, business management, and entrepreneurship. Students who enter this program will begin to master skills in double entry bookkeeping, departmental accounting, payroll accounting, and manufacturing cost accounting. Students will also use automated accounting systems and become familiar with how the automated accounting system functions. By completing the Accounting Technology Program students are prepared to enter entry-level positions or attend post-secondary institutions.

Students who choose the Accounting Technology course of study have two options for enrollment:

1. During the scheduling process, the student may enroll in the two-year option. This option will lead to completion of the program of study. This option gives students the first priority in scheduling courses and best prepares students for careers in accounting and business related careers.
2. Students may schedule individual accounting courses as elective credits. These students will be scheduled only as space is available. First priority in scheduling will be given to students enrolled in the Accounting, Administrative Assistant, and Marketing programs. This elective option should be considered by students considering careers in areas other than business who wish to earn elective credits.

The Accounting Technology Program of Study is as follows:

Year One: 10th or 11th Grade

Accounting I
Business Training
Computer Applications I

Year Two: 11th or 12th Grade

Accounting II
Micro Accounting I & II
Law and You I & II

Students wishing to complete the Accounting Technology Program need to register for these courses during years one and two.

Accounting I

Eligible Grade Level: 10 or 11

1 Unit

A must for any student who is planning to get a degree in Accounting or Business Management, this course covers the analysis and recording of business transactions for personal or vocational use. It introduces the basic principles of double-entry bookkeeping, prepares one to keep formal books of entry such as journals and ledgers, and introduces one to prepare simple financial statements. The student will complete the accounting cycle, learn to write checks and receipts, reconcile bank statements and keep simple payroll records. Students get hands-on experience through two simulation projects in which they generate accounting records for a business.

Business Training

Eligible Grade Level: 10 or 11

1 Unit

This course enables the student to understand the basic concepts of business and the economy in which we live. The students will design a small business plan, explore careers, learn skills to succeed in the world of work, get some insight into our banking system, and work with personal finances.

Computer Applications I

Eligible Grade Level: 10 or 11

1 Unit

This course develops and applies the basic computer skills needed to succeed in today's business world. These computer skills will be developed by using a variety of programs including Publisher, Word, Excel, and Powerpoint. Computer Applications I is a project-based class where group and independent learning will take place. This course provides the building blocks for all future Accounting, Business, and Marketing Education courses.

***Accounting II (Scholar)**

Eligible Grade Level: 11 or 12

1 Unit

Prerequisite: Accounting I

This course covers departmental and payroll accounting, partnership, corporation and manufacturing cost accounting. It develops the knowledge one will need to maintain proper records for efficient management. The fundamentals of Accounting I are reviewed before proceeding to the advanced work. Students get hands-on experience through two simulation projects in which they generate accounting records for a business. This course is for the student who is planning on pursuing a career or post-secondary degree in accounting.

Micro Accounting I (F)

Eligible Grade Level: 11 or 12

.50 Unit

Prerequisite: Accounting I - 1 Semester

This course presents automated accounting principles and provides a hands-on approach for learning how automated accounting systems function. Topics include: general ledger, accounts receivable and payable and financial reports.

Micro Accounting II (S)

Eligible Grade Level: 11 or 12

.50 Unit

Prerequisite: Micro-Accounting I - 1 Semester

This course provides a computerized approach to solving advanced accounting applications for a departmentalized business. The course includes computerized depreciation and financial statement analysis, and an introduction to spreadsheet programming and related problem solving applications. The course also provides an introduction to QuickBooks which is a popular accounting software package used in business and industry today.

Law and You I (F)**Eligible Grade Level: 11 or 12****.50 Unit**

Do you want to know more about the law, entering into contracts and being a consumer? Students will attend a criminal or civil trial at the county court in Smethport. Criminal Law and Contract Law are covered and supplemented with guest speakers. This course is a must for students considering a career in law or business.

Law and You II (S)**Eligible Grade Level: 11 or 12****.50 Unit**

Topics include the law of sales, property law, agency and employment law, legal forms of business ownership, and laws related to credit and borrowing money. Guest speakers and field trips add real life practicality to the topics covered. This course is a must for students considering a career in law or business.

Cooperative Education**Eligible Grade Level: 12****3 Units***By teacher recommendation only*

Cooperative Education is a school supervised work program offered only for students who are in the Career and Technical Program. Its purpose is to form a partnership for training between school and industry. This structured program combines school-based classroom learning with a work based experience in an occupation which relates to the student's training and career objectives. This is a paid experience and units will be earned.

Administrative Assistant Program**(Two Year Career and Technical Program)**

The purpose of this program is to prepare students to work in office setting in careers such as executive secretaries, administrative assistants, receptionists, information clerks, legal secretaries, and medical secretaries. This program also provides the building blocks to enter two and four year business programs and ultimately careers in business management, information technology, and entrepreneurship. Students who enter this program will begin to master skills in computer technologies and software including Microsoft Word, Excel, Access, and Powerpoint. They will also master basic accounting principles, introductory business law, and general business practices. Students will have the opportunity to earn Microsoft Office Specialist certifications. By completing the Administrative Assistant Program students are prepared to enter entry-level positions or attend post-secondary institutions.

Students who choose the Administrative Assistant course of study have two options for enrollment:

1. During the scheduling process, the student may enroll in the two-year option. This option will lead to completion of the program of study. This option gives students the first priority in scheduling courses and best prepares students for careers in business related careers.
2. Students may schedule individual business courses as elective credits. These students will be scheduled only as space is available. First priority in scheduling will be given to students enrolled in the Administrative Assistant, Accounting, and Marketing programs. This elective option should be considered by students considering careers in areas other than business who wish to earn elective credits.

The Administrative Assistant Program of study is as follows:

Year One: 10th or 11th Grade

Computer Applications I

Accounting I

Business Training

Year Two: 11th or 12th Grade

Computer Applications II

Computer Applications III

Law and You I & II

Students wishing to complete the Administrative Assistant Program need to register for these courses during years one and two.

Computer Applications I**Eligible Grade Level: 10 or 11****1 Unit**

This course develops and applies the basic computer skills needed to succeed in today's business world. These computer skills will be developed by using a variety of programs including Publisher, Word, Excel, and Powerpoint. Computer Applications I is a project-based class where group and independent learning will take place. This course provides the building blocks for all future Accounting, Business, and Marketing Education courses.

Accounting I**Eligible Grade Level: 10 or 11****1 Unit**

A must for any student who is planning to get a degree in Accounting or Business Management, this course covers the analysis and recording of business transactions for personal or vocational use. It introduces the basic principles of double-entry bookkeeping, prepares one to keep formal books of entry such as journals and ledgers, and introduces one to prepare simple financial statements. The student will complete the accounting cycle, learn to write checks and receipts, reconcile bank statements and keep simple payroll records. Students get hands-on experience through two simulation projects in which they generate accounting records for a business.

Business Training**Eligible Grade Level: 10 or 11****1 Unit**

This course enables the student to understand the basic concepts of business and the economy in which we live. The students will design a small business plan, explore careers, learn skills to succeed in the world of work, get some insight into our banking system, and work with personal finances.

Computer Applications II**Eligible Grade Level: 11 or 12****1 Unit**

Students enrolled in Computer Applications II will continue to use word and publisher to complete more difficult exercises and projects. Excel and Access will be introduced in more depth in preparation for activities encountered after mid-year in Computer Applications IV. In addition, Office skills necessary to complete the Administrative Assistant program of study will also be learned.

Computer Applications III (Scholar)*Eligible Grade Level: 11 or 12****1 Unit**

This is an advanced computer course designed to allow students to become proficient in Microsoft Excel and Access. Students will learn how to design, format, and manipulate electronic spreadsheets. Application problems relate to everyday business and financial needs. Students will also learn how to create and manage databases; work with forms, tables, reports, queries; and maintain relational databases. Upon completion of Computer Applications IV, students may have successfully passed at least three Microsoft Office Specialist exams. Completion of three MOS exams is equivalent to an introductory college computer course from any ACE accredited university.

Law and You I (F)**Eligible Grade Level: 11 or 12****.50 Unit**

Do you want to know more about the law, entering into contracts and being a consumer? Students will attend a criminal or civil trial at the county court in Smethport. Criminal Law and Contract Law are covered and supplemented with guest speakers. This course is a must for students considering a career in law or business.

Law and You II (S)**Eligible Grade Level: 11 or 12****.50 Unit**

Topics include the law of sales, property law, agency and employment law, legal forms of business ownership, and laws related to credit and borrowing money. Guest speakers and field trips add real life practicality to the topics covered. This course is a must for students considering a career in law or business.

Cooperative Education**Eligible Grade Level: 12****3 Units***By teacher recommendation only*

Cooperative Education is a school supervised work program offered only for students who are in the Career and Technical Program. Its purpose is to form a partnership for training between school and industry. This structured program combines school-based classroom learning with a work based experience in an occupation which relates to the student's training and career objectives. This is a paid experience and units will be earned.

Industry Certification:

Microsoft Office Specialist

Marketing Technology Program (Two Year Career and Technical Program)

The purpose of this program is to prepare students to work in careers such as advertising, fashion marketing, sports and entertainment marketing, retail marketing, public relations, and marketing research. This program provides the building blocks to enter two and four year business programs and ultimately careers in business management, marketing, and entrepreneurship. This program should be considered as an important prerequisite for students considering these program areas in post-secondary education. Students who enter this program will begin to master skills in pricing, product branding, target marketing, retail operations, risk management, occupational safety. By completing the Marketing Technology Program students are prepared to enter entry-level positions or attend post-secondary institutions.

Students who choose the Marketing Technology course of study have two options for enrollment:

1. During the scheduling process, the student may enroll in the two-year option. This option will lead to completion of the program of study. This option gives students the first priority in scheduling courses and best prepares students for careers in marketing related careers.
2. Students may schedule individual marketing courses as elective credits. These students will be scheduled only as space is available. First priority in scheduling will be given to students enrolled in the Marketing Technology, Administrative Assistant, and Accounting programs. This elective option should be considered by students considering careers in areas other than business who wish to earn elective credits.

The Marketing Technology Program of Study is as follows:

Year One: 10th or 11th Grade

Marketing I
Fashion & Visual Merchandising
Computer Applications I

Year Two: 11th or 12th Grade

- * Entrepreneurship & Management - Scholar
- * Retail Lab Experience (taken concurrently with above, any period)
Sports Management and Marketing

Students wishing to complete the Marketing Technology Program need to register for these courses during years one and two.

Marketing Technology I: Foundations of Marketing

Eligible Grade Level: 10 or 11

1 Unit

First year students learn about target markets, promotion, product branding, channels of distribution, pricing, selling and various other functions of marketing.

Fashion and Visual Merchandising

Eligible Grade Level: 10 or 11

1 Unit

Students receive training in occupational safety, store operations, risk management, marketing research, and merchandizing concepts

Computer Applications I

Eligible Grade Level: 10 or 11

1 Unit

This course develops and applies the basic computer skills needed to succeed in today's business world. These computer skills will be developed by using a variety of programs including Publisher, Word, Excel, and Powerpoint. Computer Applications I is a project-based class where group and independent learning will take place. This course provides the building blocks for all future Accounting, Business, and Marketing Education courses.

***Entrepreneurship & Management (Scholar)**

Eligible Grade Level: 11 or 12

1 Unit

Second year students explore entrepreneurship and business management as a career options. Students will develop a working business plan for a business of their choice. Students will then explore issues facing effective business managers such as: new employee orientation, remedial action, discipline, employee morale, etc. All Marketing Education classes involve special projects, group presentations, demonstrations and hands-on projects. All students assist with the decision-making process, management and operation of Bradford High's two school stores (The Owl's Nest and The Hollow). All Marketing students are members of DECA, a co-curricular student organization. DECA offers annual competitions and conferences on the District, State and International level. DECA furthers the development of skills and knowledge needed for success in particular marketing occupations.

Retail Marketing Laboratory Experience

Eligible Grade Level: 11 or 12

1 Unit

Students will be challenged with the responsibility of putting their marketing theory into practice in the Marketing Education laboratory, The Hollow. Students will rotate through various managerial tasks (i.e., Sales forecasting, risk management, budgeting, bill paying, visual merchandising, etc.), while successfully operating our real business.

Sports Management and Marketing

Eligible Grade Level: 11 or 12

1 Unit

This course offers a comprehensive introduction to the principals of business and marketing in the sports industry. This course discusses the meaning of sports management and marketing in terms of its scope, principals, issues, and future trends. The basics concepts mastered in this course can be applied to all basic areas of business and marketing. Any student considering a career in business management, entertainment, or marketing fields should consider this course.

Cooperative Education

Eligible Grade Level: 12

3 Units

By teacher recommendation only

Cooperative Education is a school supervised work program offered only for students who are in the Career and Technical Program. Its purpose is to form a partnership for training between school and industry. This structured program combines school-based classroom learning with a work based experience in an occupation which relates to the student's training and career objectives. This is a paid experience and units will be earned.

Industry Certification:

National Retail Federation Customer Service

BUSINESS AND COMPUTER ELECTIVES (Non-Career and Technical Program of Study Courses)

Microtype

Eligible Grade Level: 9, 10, 11, 12

1 Unit

Microtype is a keyboarding class for students who type less than 30 words per minute. You will have the opportunity to improve your keyboarding skill and to learn how to format documents required in your core classes. Upon the successful completion of this course, a student could continue with Computer Applications I.

Introduction to Computer Applications

Eligible Grade Level: 9, 10, 11, 12

1 Unit

Do you already feel confident about your keyboarding skills? Can you type at least 30 words per minute? If so, this is the class for you. In this computer class you will become proficient in creating slideshows and in formatting letters, memos, reports, resumes, newsletters, tables, and charts. By completion of the course, you will be making advanced presentations with pictures, music and even video clips. Students can become experts in Microsoft Word and PowerPoint, and also learn the basics of Internet Explorer.

Business Applications

Eligible Grade Level: 9, 10, 11, 12

1 Unit

If you want to learn how to do your taxes, borrow money, or if you like logical everyday problem solving, you will like this course. Students will apply basic business problem solving skills by completing business problems and simulations. Some topics covered include payroll and taxes, borrowing and investing, consumer purchases and business management.

***Special Topics in Accounting (Scholar)**

Eligible Grade Level: 12

1 Unit

Prerequisite: Accounting II

Topics covered will include management accounting with inventory planning and valuation, budgetary planning and control, use of accounting information for making management decision, and financial statement analysis. Cost accounting for a merchandising and for a manufacturing business will be explored in depth. Advanced accounting procedures for partnerships will be explored as well as accounting and reporting financial information for non-profit organizations with special emphasis on government organizations. Students will also complete 2 simulation projects and use Automated Accounting 7.0 software to complete selected problems. This course is for the student who is planning on pursuing a career or post-secondary degree in accounting.

Web Page Design

Eligible Grade Level: 10, 11, 12

1 Unit

Prerequisite: Introduction to Computer Applications

This course is intended to help you develop skills needed to become a web designer. HTML and Macromedia Dreamweaver will be used to create, format, illustrate, design and edit web pages. The class focuses on web page planning, basic design, layout and construction, and setup and maintenance of a web site. Using a variety of web development tools and software, students will create their own Web site and much more.

Office Procedures

Eligible Grade Level: 12

1 Unit

By teacher recommendation

This class provides opportunities for students to learn and perform occupational skills needed at a job site. Students will tie their experience from previously taken business courses to complete on-the-job problems. They will use a variety of software programs to complete tasks most efficiently. Based on their interests, skills, and abilities, students will be placed when job sites are available.

CARPENTRY

The Carpentry class is designed to introduce and develop the skills necessary to perform the many tasks required of a carpenter. This class follows a three-year schedule of skill development. The sequence of classes is as follows:

Carpentry I	Grade 10, 11	3 Units - 3 Class periods/day
Carpentry II	Grade 11, 12	3 Units - 3 Class periods/day
Carpentry III	Grade 12	3 Units - 3 Class periods/day

A carpenter is a person who constructs, erects, installs and repairs structures and fixtures of wood, plywood and wallboard, using carpenter's hand tools and power tools, and conforming to local building codes. A carpenter also studies blueprints, sketches or building plans for information pertaining to specified types of lumber or other construction materials.

Basics are stressed in the initial year, which include such areas as the proper use of hand and power tools, blueprint reading and sketching. Manual skill development includes scaffolds and different types of framing. These are continued with increasing complexity throughout the three years. Finish carpentry such as cabinet work, interior-exterior wall finishes, basics in footer and foundation work, interior and exterior trim, door hanging, stairway layout and construction and estimating material for jobs are included as part of this course.

Industry Certifications:

NCCER Residential Carpentry, OSHA 500 10 House Construction Safety

An individual graduating from this program could pursue the following career paths:

- Carpenter
- Block Layer
- Concrete Work
- Roofer
- Dry Waller
- Building Estimator
- Building Inspector
- Code Enforcer
- Siding Contractor
- Construction Management

Opportunities for Postsecondary Education:

- Pennsylvania College of Technology
- Triangle Tech
- Alfred State College (Construction Management)

CHILD DEVELOPMENT

This course is designed to prepare students for careers in areas such as childcare, early childhood education, school counseling, and other occupations dealing with children. Students will develop age-appropriate curriculum, activity centers, and lesson plans. For a large portion of the program students will interact with and guide child behaviors in the pre-kindergarten laboratory at GGB Elementary School as well as other daycare providers and education centers in the community.

Students will be participating in a national certification program called CDA (Child Development Associate) and may become certified as CDA ready, which means that upon turning 18, graduating from high school and fulfilling the required number of hands-on hours in a child care facility they may take the national exam that will certify them as a Child Development Associate. Whether the students are in-home daycare centers or pre-kindergarten programs, facilities that work with young children will be looking for CDA certified candidates as they hire new personnel. In addition to immediate work opportunities, those pursuing a college degree in an education related field would be able to use the knowledge gained from the Child Development Program and their Professional Resource File to further their college education and post-college employment possibilities.

Child Development I	Grade 10	3 Units - 3 Class Periods Per Day
Child Development II	Grade 11, 12	3 Units - 3 Class Periods Per Day
Child Development III	Grade 12	3 Units - 3 Class Periods Per Day

Industry Certification:

Child Development Associate

Possible Career Paths:

- Daycare Center Aide
- Daycare Operator
- Pre-Kindergarten/Head Start Aide
- Early Childhood/Pre-Kindergarten Teacher
- Elementary Teacher
- School Guidance Counselor
- School/Child Psychologist

COMPUTER MAINTENANCE TECHNOLOGY

Computer Maintenance Technology/Technician I	Grade 10, 11, 12	3 Units – 3 periods
Computer Maintenance Technology/Technician II	Grade 11, 12	3 Units – 3 periods
*Computer Maintenance Technology/Technician III (Scholar)	Grade 12	3 Units – 3 periods

The Computer Maintenance Technology program prepares students to apply engineering and technical skills in support of professionals who use computer systems. The scope and sequence of this course includes instruction in computer design and architecture, problems of specific computer applications, component and system maintenance and inspection procedures, hardware and software problem diagnosis and repair, and report preparation. Students will also acquaint themselves with areas in the Computer Science field such as HTML, programming, soldering, electronics, networking, Flash, and advanced computer procedures.

Upon completion of two years of this program, students will be eligible for CompTIA A+ examinations. Becoming A+ certified allows students to be able to work as a Computer Specialist in a technically challenging, exciting field.

An individual graduating from this program could pursue the following career paths:

- Computer support technician
- Computer repair and troubleshooting
- Computer assembly
- Advanced computing

Students who were successful in this course have pursued post-secondary education at these, as well as many other, institutions:

- University of Pittsburgh at Bradford
- Case Western University
- Penn State University
- Penn College of Technology
- OBI
- Gannon University

DRAFTING TECHNOLOGY

Drafting Technology I	Grade 10, 11, 12	3 Units - 3 periods
Drafting Technology II	Grade 11, 12	3 Units - 3 periods
*Drafting Technology III (scholar level)	Grade 12	3 Units - 3 periods

Note: If space is available after 3 period students are scheduled, students may schedule for 2 periods of Drafting if other academic courses are required for preferred course of study. See instructor for details.

Drafting Technology is a two-year program offering students' skills in basic and advanced drafting based in Computer-Assisted-Drafting (CAD) training. The object of the course is to provide a broad knowledge of drafting, engineering and architectural procedures. **The availability of high paying technical jobs in the design-engineering field is projected to continue to increase in the future.** It is required that students be at grade level, or above, in math to be successful in this program. The ability to complete Algebra I and Geometry is preferred.

In order for a product or a structure to be built, a Technical Drafter takes the ideas, sketches and specifications of designers and engineers and then prepares drawings to scale using approved drafting techniques. *This course is also useful for those students considering entering an engineering or architectural field. The course material covers many basic concepts that will help prepare a student for post secondary studies.*

Instruction includes introduction to engineering and architectural drafting, general safety, proper use of engineering equipment, sketching techniques, three-dimensional drawings and basic technical drawings typical of those used in industry and the building trades. All classes use state-of-the-art computer software programs that are used in many local industries.

Drafting I training prepares students to make typical mechanical drawings on state-of-the-art computer aided design software.

Drafting II introduces advanced concepts in 3 dimensional modeling and architectural design. Students completing Drafting I & II, at the three-period level, will have completed a program certified by the American Design and drafting Association at the apprentice drafter level. They will also be eligible to receive a PA State Skills certificate from National Occupational Competency Testing Institute in General Drafting. All instructional materials used are approved by Auto CAD for use in AutoCAD Training Centers.

***Drafting III** the last phase of the program can be devoted to elected areas so that a student's area of greatest interest can be explored. Areas available for study are: Mechanical Engineering, Architectural Engineering, Electrical Engineering and Civil Engineering. When available, students may be offered a capstone cooperative experience, where they are placed in a local business in a paid job related to their area of study. Non-paid work-study or internships are also available. Students must have completed Drafting I :& II with a 70% or better.

WHAT YOU WILL NEED:

- Problem Solving Skills
- Ability to Work as a Team
- Ability to Work Independently
- Mechanical Aptitude
- Communication Skills
- Creativity/Artistic Ability
- Determination to be Successful

CAREER POSSIBILITIES:

- Drafter
 - Mechanical Drafter
 - Architectural Drafter
 - Civil Drafter
 - Electrical/Electronic drafter
- (Salary range - \$17,000 to \$32,600/year)

WHAT YOU WILL LEARN:

- Basic Drafting Skills
- Mechanical/Manufacturing Related Skills
- Architectural/Civil and Related Skills
- Use of Hardware and Related Tools
- Software Operation, including: AutoCAD, Inventor, Architectural Desktop and MasterCAM Manufacturing Software
- Manufacturing and Architectural Concepts

CAREER POSSIBILITIES WITH ADDITIONAL EDUCATION:

- Mechanical Engineer
- Electrical Engineer
- Civil Engineer
- Industrial Engineer
- Architect
- Chief Design Drafter

GRADUATES OF THE PROGRAM HAVE BEEN SUCCESSFUL AT THE FOLLOWING SCHOOLS:

Associate Degree Programs/Technical Schools:

- Pennsylvania College of Technology (Penn College) *
- Penn State DuBois – Engineering Technology *
- Pittsburgh Technical Institute (PTI)
- Triangle Tech *
- Alfred State College

* Articulation agreements exist with this school guaranteeing admission to students completing the program

Bachelor Degree Programs:

- Penn State Behrend – Engineering majors
- Penn State University Park – Architecture
- Case Western University – Engineering
- University of Pittsburgh – Engineering & Related Majors

ELECTRICAL OCCUPATIONS

The Electrical Occupations program is recognized by the Associated Builders and Contractors (ABC) and taught by a certified National Center for Construction Education and Research (NCCER) instructor. The program prepares individuals for employment in residential, commercial and industrial electrical industries. Instruction includes electrical principles and theory, residential and commercial wiring, programmable logic controllers (PLC) and basic motor control systems.

Electricians install, maintain, troubleshoot and repair electrical systems in accordance with National Electrical Code (NEC) specifications. Students will learn these guidelines and how to navigate the NEC. Students enrolled in this program have the opportunity to earn nationally recognized industry credentials from the National Center for Construction Education and Research. The sequence of classes is as follows:

Electrical Occupations I	Grade 10, 11, 12	3 Units - 3 Class Periods Per Day
Electrical Occupations II	Grade 11, 12	3 Units - 3 Class Periods Per Day
Electrical Occupations III	Grade 12	3 Units - 3 Class Periods Per Day

Industry Certifications:

NCCER Residential Electrical, OSHA 500 10 House Construction Safety

An individual graduating from this program could pursue the following career paths:

- ★ Residential Electrician
- ★ Commercial Electrician
- ★ Industrial Electrician
- ★ Electrical Supplies Salesperson
- ★ Telephone Repairer/Installer
- ★ Electrician's Helper

Opportunities for Postsecondary Education:

- ★ Associated Builders & Contractors Apprenticeship Program
- ★ Triangle Tech
- ★ ITEC
- ★ Pennsylvania College of Technology
- ★ Alfred State College

Websites of Interest:

- ★ www.nccer.com
- ★ www.abccentralpa.org
- ★ www.ibew.org
- ★ www.pct.edu
- ★ www.triangle-tech.com
- ★ www.paworkstats.state.pa.us
- ★ www.elec-toolbox.com
- ★ www.bls.gov

HEALTH OCCUPATIONS PROGRAM

As medical advances and technology continue to grow, people are living much longer. The demand for health care providers in many areas is at an all time high. The best time to discover if a career is meant for you is before you invest your time and money. Students in the Health Occupations Program learn first hand by actual exposure to the various careers in health care, class and laboratory procedures, guest speakers, role-playing and more. Students in this course will learn a lot and have fun while they do it!

This program is designed to meet the following objectives:

- **Help the student discover possible areas of interest within the health care field. Examples would be: Nursing, Radiology, Sports Medicine, Pharmacy, Physician's Assistant/Medicine, and more...**
- **Prepare the student for employment and/or post-secondary education in health care.**
- **Prepare the successful senior for the state certification exam for nursing assistants**
- **Help the student acquire positive communication skills, a strong work ethic and a desire to help others.**

The sequence of courses is as follows:

Introduction to Health Occupations (F or S)

Eligible Grade Level: 10 only

.50 Unit - 1 period

This course provides a general overview of the main career opportunities in the health care delivery system. The major health related professions are introduced along with an introduction to basic anatomy and physiology and medical terminology. The responsibilities and requirements as well as the rewards of working in the health care field are stressed. Group discussion, videos, on-site visits, guest speakers, individual and group projects, role-playing and library research form the basis for the learning experience. Students maintaining a 75% average or better will be given the opportunity to experience working with a health care professional in a field of their choice. **(ONLY THOSE STUDENTS WHO HAVE A STRONG INTEREST IN THE HEALTH CARE FIELD SHOULD REGISTER).**

Health Occupations I

Eligible Grade Level: 11 only

2 Units plus the option of a third unit by enrollment in an upper level science or math

(Class size is limited to 24 students)

Health Occupations I consist of a daily theory period and a lab period. The third period option would be Scholars Chemistry (College Prep Chemistry) or higher science or Algebra II or higher math to meet state standards. **To advance to the senior year, students must have successfully completed Health Occupations I with a minimum of 75% test grade average and an 85% skills performance/evaluation. Good attendance, a willingness to work with others and an obvious level of maturity are a must!**

Health Occupations II

Eligible Grade Level: 12 only

(Class size is limited to 8 students/semester)

Mandatory semester requirement (F or S)

3 periods for 1.5 units

OR

2 periods for 1.0 unit plus an upper level science or math

Optional for the opposite semester

1.5 units of Cooperative Education

OR

1 unit of a health related Independent Study with an upper level science or math

The first five weeks consist of theory and lab at the high school. Beginning week 6, students report three days per week to BRMC/BNP for clinical.

Cooperative Education portion: Since employment agencies have 120 days from the date of hire for nurse aides to become certified, all seniors are eligible for employment as nursing assistants and may continue to work in the field opposite of the course offering.

MACHINE TECHNOLOGY

Machine Technology is a three-year nationally certified program based on National Institute for Metalworking Skills (NIMS) standards and related curriculum. It is taught by a certified NIMS instructor. Students will earn NIMS credentials that are nationally recognized by employers and post secondary learning institutions. Students will learn to operate a variety of machine tools and use machinist hand tools to cut, drill, grind, or otherwise form a desired shape and size with an extremely high degree of accuracy. Specific instruction will be given in the operation of engine lathes, milling machines, power saws, grinders, and state of the art CNC equipment. Students are taught to use precision instruments such as micrometers, calipers, and layout tools.

The Machine Technology program is designed to provide students three years of intensive training to successfully transition to the working world or post secondary training. The sequence of classes is as follows:

Machine Technology I	Grade 10, 11, 12	3 Units - 3 Class Periods Per Day
Machine Technology II	Grade 11, 12	3 Units - 3 Class Periods Per Day
Machine Technology III	Grade 12	3 Units - 3 Class Periods Per Day

An individual graduating from this program could pursue the following career paths:

- CNC Programmer
- Machinist
- Machine Tool Operator

Opportunities for Postsecondary Education:

- Pennsylvania College of Technology
- ITEC
- Thaddeus Stevens College of Technology

NATURAL RESOURCES MANAGEMENT

The Natural Resources Management class is a combination of two classes previously offered at BHS: Grounds and Building Maintenance and Petroleum Production. This course will prepare students for careers locally and nationwide in areas like Forestry and Oil Production. A program of Agricultural Mechanics will be used to provide the beginning instruction in these areas. Students will build on these basic skills as they start to develop specific Forestry and Petroleum Production skills. The recommended scope and sequence for the program is as follows:

National Resources Management I	Grade 10	3 Units - 3 Class Periods Per Day
National Resources Management II	Grade 11	3 Units - 3 Class Periods Per Day
National Resources Management III	Grade 12	3 Units - 3 Class Periods Per Day

Instruction in this program emphasizes basic skills in such areas as electricity, plumbing, carpentry, welding, masonry, painting, small engine repair, sheet metal, general landscaping, and site remediation. Due to environmental concerns and job opportunities within this area, this course will also include instruction in conservation and the environment. Forestry and other related areas like timber cruising and tree identification will be a part of the curriculum.

More advanced level skills taught are heavy equipment operation, chain saw maintenance, sawmill operation, secondary wood processing, fusion welding, jacks and jack repair, pumps and pump repair, oil field electricity, and well pumping operation. The course also includes instruction and activities involving the FFA (leadership development, personal growth, and contests).

Some of the careers that a student could go into after graduation include: equipment operator, logger, sawmill operator, small engine repairman, construction worker, maintenance worker, welder, painter, and landscape worker. Careers specific to the oil and gas industry are roustabout, oil and gas field service worker, rig hand, oil and gas well tender, and oil and gas truck driver.

Students have the opportunity to pursue National Safe Tractor and Machinery Operation Certification as well as the Pesticide Applicators and OSHA 500 10 House Construction Safety Certification.

Post-secondary schools with related programs include: the Pennsylvania College of Technology, the State University of New York College of Technology at Alfred, the Pennsylvania State University, and the University at Pittsburgh at Bradford.

DIVERSIFIED OCCUPATIONS

Eligible Grade Level: 12

3 Units

Prerequisite: Cum 70 GPA at end of junior year and by counselor recommendation only

Diversified Occupations is a school supervised work program offered during the senior year. Its purpose is to provide experience and training in an occupational career not offered at Bradford Area High School. Students are placed on school approved work sites where they learn and develop the skills necessary to survive on the job. Students will be required to take the classroom (theory) component of this program. **Students will be required to spend five class period per week in theory, where they will learn strategies to obtain and maintain employment such as: write a cover letter of application and resume; complete a job application; practice job interviewing; develop good employer-employee relationships; learn about money management, personal safety, and other job survival skills.** This is a paid work experience and units will be earned. All Diversified Occupation experiences must be a minimum of 15 hours per week in length.

CAPSTONE COOPERATIVE EDUCATION

Eligible Grade Level: 12

3 Units

Prerequisite: By teacher recommendation only

Cooperative Education is a school supervised work program offered during the senior year for students who are in a Career & Technical Program. Its purpose is to “form a partnership for training” between school and industry. This structured program combines school based “career and technical” learning with a work-based experience in an occupation, which relates to the students’ career and technical training and their career objective. **The student will be required to complete coursework in his/her shop one day a week.** This day will be decided by the employer, the Co-op Coordinator, and the instructor. Cooperative Education is a paid work experience and the grade earned will be averaged in with the student’s classroom grade.