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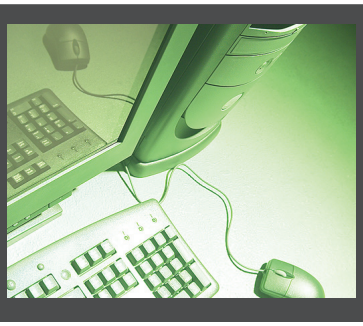
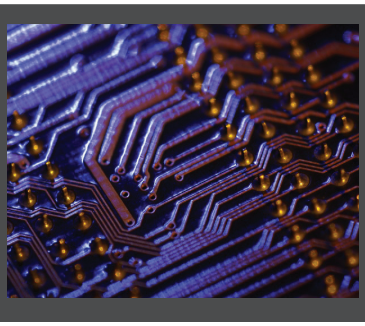
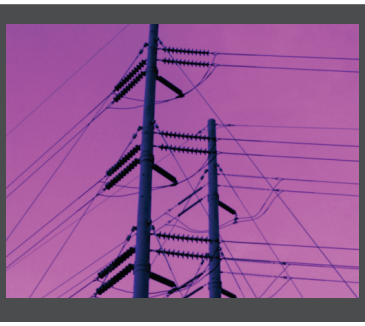

www.perrytech.edu

PERRY
TECHNICAL
INSTITUTE

PERRY TECHNICAL INSTITUTE

2011 West Washington Avenue
Yakima, WA 98903-1296
(509) 453-0374 • (888) 528-8586
www.perrytech.edu

ACCSCT
ACCREDITING COMMISSION OF CAREER SCHOOLS AND COLLEGES OF TECHNOLOGY

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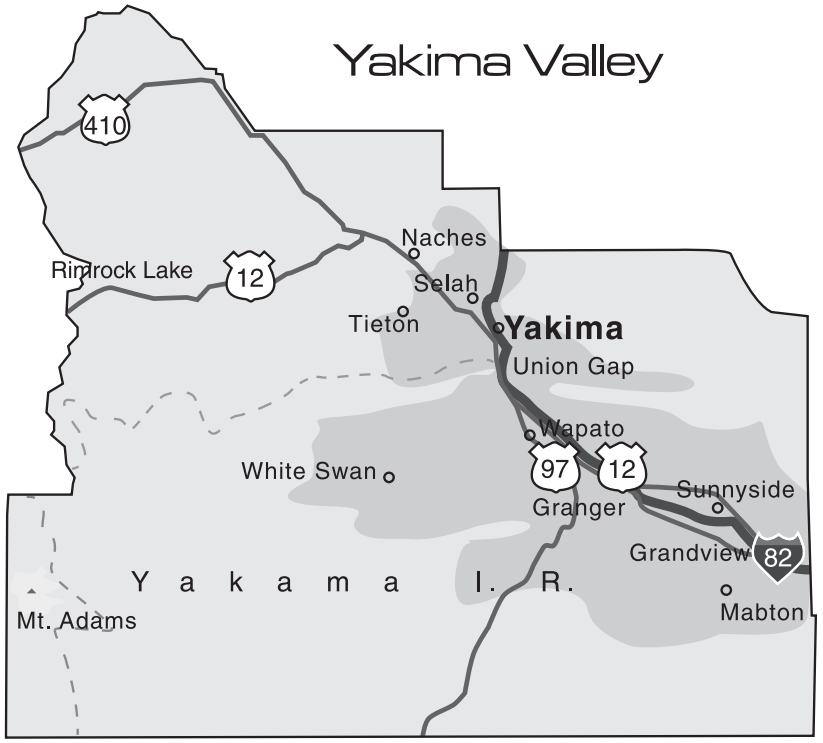

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Christine Coté

Message from the President

Welcome to Perry Technical Institute. As you begin your education at Perry, you are joining a proud tradition that was established 70 years ago when Harriet I. Perry founded the school as a memorial to her husband, John M. Perry.

At Perry Technical Institute, we focus on equipping our students with the skills that industry demands and the work habits and attitudes that employers seek in their employees. We are proud of our placement rates and of the success achieved by our graduates.

As you begin your training, I encourage you to make the most of your education by committing yourself to positive lifestyle choices, good study habits, regular attendance and punctuality. Your efforts will be rewarded when you graduate and are qualified for a job which pays a living wage and offers benefits and opportunities for advancement.

The administration, faculty and staff at Perry are here to serve you. We are committed to helping you succeed in the classroom and beyond. When you graduate, we will follow your success and take pride in all of your accomplishments.

Christine S. Coté

Christine Coté
President
Perry Technical Institute

Catalog certified as true and correct in content and policy.
June 2009

Mission Statement

Perry Technical Institute will provide industry with well-trained people
who are motivated to work as team members to meet the needs
of industry in our rapidly evolving technological world.

Vision Statement

Perry Technical Institute will provide the resources and guidance required
to allow students to acquire the knowledge, attitudes and skills to
achieve employment and success in their chosen career field.

Purpose of the Harriet I. Perry Trust

"The purpose of this trust is the creation, establishment, erection, equipment, maintenance, and endowment of an educational institution to be located on or near the vicinity of Yakima, Washington, to be known as THE J.M. PERRY INSTITUTE OF TRADE, INDUSTRIES AND AGRICULTURE, to provide courses of instruction and training of a practical nature and confined to the technical area of such trades, industries, and branches of agriculture as shall qualify and prepare the students to enter a gainful occupation and fill working positions in respective fields of trade, industry, and agriculture in which courses of instruction and training shall be given by the Institute. All applicants for admission to the Institute shall be not less than sixteen (16) years of age, and shall possess a high school education or the equivalent thereof, and shall be admitted upon such terms or payment, not to be prescribed with a view to profit, as may be determined by the trustees in the case of each applicant for admission, depending on the merits, fitness, and qualifications to benefit by the courses of instruction given by the Institute, PROVIDED, HOWEVER, that said Institute shall be open to all persons upon equal terms who possess the qualifications established for admission thereto." (Trust Deed dated December 20, 1939)

History of Perry Technical Institute

Harriet I. Perry founded Perry Technical Institute in 1939 as a lasting memorial to her husband, the late John M. Perry, a noted pioneer business leader in the Yakima Valley. Although his interests were varied, Mr. Perry's main enterprise was J.M. Perry and Company, a commission house dealing in fruit packing, shipping, cold storage and ice manufacturing. The first warehouse was constructed in 1911 and enlarged in the following years. The Northern Pacific and Union Pacific railroads were among the company's largest ice contracts.

In an unfortunate turn of events in 1938, Mr. Perry suddenly became seriously ill while on a business trip to Fairbanks, Alaska. He needed immediate surgery and was flown to Seattle. The flight was delayed by bad weather and Mr. Perry died at Maynard Hospital in Seattle on October 1, 1938. He was 77 years old.

One year later, Mrs. Perry announced that she was creating a trust fund for the establishment of the J.M. Perry Institute of Trades, Industries and Agriculture. She named three community members to the Board of Trustees: Arthur S. Coffin, Roy A. Matson and Harcourt M. Taylor. Mrs. Perry outlined plans to create a technical school that would train ambitious people in skilled occupations. Curriculum would be streamlined to eliminate non-essentials and enrollment would be open to beginners as well as those students with previous training or experience.

The trustees researched technical schools throughout the United States, gathering information about curriculum, shop construction and equipment. The trustees also searched for a suitable site to build the school. They selected a 54-acre parcel of land adjacent to the airport. Four small farms and houses were located on the property, which was purchased for $23,000, or approximately $440 per acre.

Construction of the school's main building began in 1939 and was completed the following year. The total cost of constructing and equipping the building was approximately $650,000. This modern building included shops, classrooms, administration offices and an auditorium. The school opened its doors to 211 students on January 2, 1941. The original course offerings were: Aircraft Mechanic; Aircraft Engine Mechanic; Aircraft Radio Mechanic; Automotive Mechanic; Automotive, Body and Fender Mechanic; Carpentry; Inside Electrical Wiring; Machine Shop Practice; Machine Shop Practice-Tool Making; Painting, Paper Hanging and Decorating; Plumbing and Heating Sheet Metal; Welding-Electric AC and DC; Welding-Oxyacetylene; and General Shop.

In 1969, Perry Technical Institute became the first private technical school in Washington to be accredited by the Accrediting Commission of Career Schools and Colleges of Technology. The Arlington, Virginia-based organization is a private, non-profit, independent accrediting agency which is recognized by the United States Department of Education as an organization which works to ensure quality education for more than 220,000 students at more than 820 accredited institutions across the United States.

Unprecedented growth in the late 1970s and early 1980s created the need to build and equip three additional buildings on campus – Bond Instrumentation Laboratory, Harvey L. Smith Electrical Technology Building and Burnham Prince Agriculture Mechanics Building. In 1996, the main building was remodeled, adding new classrooms for the Telecommunications Program. A women's restroom was added in the main shop area to accommodate the growing number of women enrolling at the school.

In 1998, crews began constructing a 14,160 square foot building to house the Instrumentation & Industrial Automation Technology Program. The Bond Building, which had housed the program since 1945, continued to be used for two classes. The new Instrumentation Building was dedicated on October 16, 1999, and the first students trained in the building in January 2000.

In July 2004, a fire severely damaged the Bond Building. A new building was constructed to replace the fire-damaged Bond Building. The new building housed a portion of the Instrumentation Program and allowed the Machine Technology Program to relocate to the new building and move out of its outdated shop on the west end of campus. The 17,100 square foot building was dedicated on June 23, 2006.

The hangar building on the west end of campus is currently being renovated. When complete, the renovated building will house the Heating, Ventilation, Air Conditioning & Refrigeration Technology Program, the Visual Communication & Graphic Technology Program and the Office Administration Programs. The state-of-the-art facility will be named the Eugene Shields Technical Training Center

Over the years, Perry Technical Institute has grown and adapted its curriculum to meet the changing needs of industry. The school's mission, however, has remained unchanged. We serve industry by equipping workers with both technical skills and positive work habits. We serve students of all ages and walks of life by equipping them with the knowledge and skills they need for careers that offer family-supportable wages, job security, benefits and opportunities for advancement.

Facilities

The Perry Technical Institute campus is located at 2011 West Washington Avenue on approximately 40 acres of land on the southwest edge of Yakima, Washington, across the street from the Yakima Air Terminal.

The school's facilities include the main building, which houses the Administration Office; the Heating, Ventilation, Air Conditioning & Refrigeration Technology Program; the Information Technology & Communication Systems Program; the Computer Applications & Office Administration Program; the Computer Applications & Medical Office Administration Program; the Medical Coding & Reimbursement Specialist Program; the Visual Communication & Graphic Technology Program; a 700-seat auditorium; and the Deli. The Instrumentation Building, located east of the main building, houses the Instrumentation & Industrial Automation Technology program and the Machine Technology Program. The Smith Electrical Technology building is located behind the main building; the Burnham Prince Automotive/Agriculture Building is on the northwest end of campus; and the 16th Avenue Complex is located the northeast side of campus on South 16th Avenue.

Academic Calendar 2009-2010

Automotive, HVAC/R, ITCS, Machine, Office Administration, Medical Coding & Reimbursement Specialist, Medical Office Administration and VCG.

SUMMER QUARTER 2009	June 24	Summer Quarter Begins
	July 3	Independence Day, No Classes
	August 3-14	Summer Break
	September 7	Labor Day, No Classes
	September 24	Graduation
	September 24	Summer Quarter Ends
FALL QUARTER 2009	September 28	Fall Quarter Begins
	November 11	Veteran's Day, No Classes
	November 26-27	Thanksgiving Holiday, No Classes
	December 18	Graduation
	December 18	Fall Quarter Ends
	Dec. 21, 2009-Jan. 1, 2010	Winter Break
WINTER QUARTER 2010	January 4	Winter Quarter Begins
	January 18	Martin Luther King, Jr. Day, No Classes
	February 15	President's Day, No Classes
	March 25	Graduation
	March 25	Winter Quarter Ends
	March 29-April 2	Spring Break
SPRING QUARTER 2010	April 5	Spring Quarter Begins
	May 31	Memorial Day, No Classes
	June 24	Graduation
	June 24	Spring Quarter Ends

Electrical and Instrumentation

SUMMER TRIMESTER 2009	June 24	Summer Trimester Begins
	July 3	Independence Day, No Classes
	August 3-14	Summer Break
	September 7	Labor Day, No Classes
	October 22	Graduation
	October 22	Summer Trimester Ends
FALL TRIMESTER 2009/2010	October 26	Fall Trimester Begins
	November 11	Veteran's Day, No Classes
	November 26-27	Thanksgiving Holiday, No Classes
	Dec. 21, 2009-Jan. 1, 2010	Winter Break
	January 4	Return to Class
	January 18	Martin Luther King, Jr. Day, No Classes
	February 15	President's Day, No Classes
	February 25	Graduation
	February 25, 2010	Fall Trimester Ends
SPRING TRIMESTER 2010	March 1, 2010	Spring Trimester Begins
	March 29-April 2	Spring Break
	May 31	Memorial Day, No Classes
	June 24	Graduation
	June 24	Spring Trimester Ends

Admissions

Perry Technical Institute welcomes prospective applicants who are seeking education in one of the 10 training programs offered. Perry Technical Institute admits students of any race/color, sex, creed, marital status, national origin, age and disability to all rights, privileges, programs and activities generally accorded or made available to students at the school. The school does not discriminate on the basis of race/color, sex, creed, marital status, national origin, age or disability in administration of its educational policies, admissions policies, scholarship and loan programs, and other school administered activities. All applicants must be high school graduates or have earned a General Education Development Certificate (GED), and be at least 16 years of age.

Admissions Procedures

To apply for admission, applicants should contact an Admissions Representative at Perry Technical Institute to request program information and take a tour of the school facilities. Once the applicant has made a decision to apply for admission to Perry Technical Institute, the applicant must complete an application for admission; provide proof of satisfactory completion of high school or equivalent education; and pay a $35 registration fee. Candidates will confirm they have already received a catalog or will receive one at the time of acceptance to Perry Technical Institute. The Admissions Office will review the application for admission and notify the applicant in writing the status of admission to the school.

Admissions Requirements

1. Proof of satisfactory completion of high school or equivalent education and valid state-issued photo ID or driver's license.
2. Completed application for admission to Perry Technical Institute with $35 registration fee.
3. Successful completion of the entrance exam for the appropriate program.
4. Payment of $500 tuition deposit to ensure a starting date.
5. Sign enrollment contract and attend mandatory student orientation.

Additional documentation may be required depending on the individual program requirements.

We enroll students based on the date on which their admissions requirements are complete. When classes reach capacity, students are automatically enrolled in the next available start date. Students requesting to be placed on the waiting list will also be automatically enrolled for the next available start date. Students who request a change in enrollment date will be charged a $35 registration fee at the time of the third request.

Credit for Previous Education

Because of the specialized nature of the employment preparation offered in Perry Technical Institute courses, credit for previous education or training can be granted only from the successful completion of by-pass (challenge) testing and the recommendation of the appropriate department head, confirmed by the Dean of Education.

Academic Information

Attendance Policy

Classes are held from 8:00 a.m. until 3:30 p.m., Monday through Friday with the following exception: The Electrical Department starts at 7:47 a.m. and the HVAC/R Department ends at 3:43 p.m., which is in compliance with the Department of Labor and Industries to complete extended hours.

Attendance is mandatory: Students must maintain a minimum attendance rate of 87% for each term including unexcused and excused absences.

Probations: Students may be placed on probation until the end of that school term when they exceed five combined absences (excused/unexcused) in one quarter and/or seven combined absences (excused/unexcused) in one trimester

Dismissal: Students who exceed 13% combined absences (unexcused and/or excused) in a term may be subject to dismissal.

Standard operating procedure:

8:00 a.m. notification: Students are required to notify the school by 8:00 a.m. each day they are absent or late.

Clocking in: Student attendance is recorded by using an electronic time management system. Students are provided with an ID scan card and are required to scan in and out each day. The cost to replace the ID scan card is $5.

Externships: Students leaving campus for an externship are also required to scan their cards at the time they leave.

Dismissal: A student scanning or keying another student's card/ID number may be subject to dismissal. Grades, financial aid and Department of Veteran's Affairs agencies sponsoring students are dependent on accurate records of attendance.

Unexcused absence: is defined as any attendance irregularity which does not have sanction from an instructor.

Class cut: is defined as absence on an unauthorized basis from a class at other than stated break periods, or leaving a class prior to the end of the scheduled instruction period. This is an unexcused absence.

Probations: The student will automatically be placed on probation after two days of unexcused absences in a 20-school-day period.

Dismissal: The student may be dismissed from school following three consecutive days of unexcused absences.

Excused absences: can be granted for legitimate reasons such as illness, official-legal business appointments, and/or death or serious illness in the immediate family.

Tardiness: is defined as entry into class after any scheduled start time.

Probation: A student who is tardy three times in a 20-school-day period may be placed on probation.

Satisfactory Academic Progress Policy

Definition: The student must be making satisfactory academic progress in order to remain eligible for continuous enrollment under regular student status. Students not making satisfactory academic progress will be placed on probation. A student is graded not only on test scores but also on participation in class, attendance, performance in lab and conduct.

Students must: Complete each term with a minimum GPA of 2.0, and the minimum grades established for each subject within the department.

Probation

If a student has not met the criteria of satisfactory progress at any point during the term the student will be placed on probation. A student is encouraged to meet with his or her instructor for counseling while on probation. A copy of the signed document will be given to the student, the program counselor (if applicable) and the Financial Aid Office and the original is filed in the student's file. If the student has not achieved satisfactory academic progress by the end of the probation term, he/she may be dismissed.

Exceeding three probations: The school reserves the right to dismiss students who have exceeded three probations.

Repeated terms: Financial aid programs do not typically pay for repeated terms.

Repeating Quarters/Trimesters

A student failing to maintain satisfactory progress or withdrawing from a class in the middle of a term may petition to repeat the quarter or trimester. Upon successful completion of the repeated quarter or trimester, the student will be granted the grade for the quarter or trimester successfully completed in lieu of the previous grade.

No student will be allowed to repeat quarters or trimesters that result in a total time of enrollment exceeding 1.5 times the specified time for the program.

Repeating quarters/trimesters may affect financial aid eligibility.

All failures requiring the retake of courses will be charged the current academic year quarterly or trimester rate.

Termination of Enrollment

Withdrawal: Students who voluntarily withdraw from school must complete a Withdrawal Form and have it signed by specified school officials in order to officially close their records.

Dismissal: The school reserves the right to dismiss any student for any of the following reasons:

1. Violation of probation
2. Exceeding three probations
3. Three consecutive days of unexcused absences
4. Scanning or keying another student's card/ID number for attendance
5. Students who exceed 13% combined absences (unexcused and/or excused)
6. Aggressive, harassing or discriminatory acts against other students or employees
7. Failure to pay tuition
8. Unsatisfactory Satisfactory Academic Progress (SAP)
9. Failure to follow school procedures and policies
10. Acts of theft or dishonesty
11. Failure to comply with safety regulations
12. Malicious damage to school property
13. Insubordinate acts against staff or other Perry Technical Institute employees
14. Illegal drug/alcohol abuse
15. Violating probation

The Dean of Education will conduct a full hearing of the facts and make a recommendation to the President. The authority to dismiss a student is vested only in the President and the President's decision following a review of the facts is final.

Appeal Procedure

A student who has been dismissed and wishes to appeal that decision must submit a letter to the school President. The letter must describe any and all circumstances deserving of further consideration. The President will convene an appeal committee consisting of the department head, instructor and a designated representative of the school in order to review the appeal. The student will be notified within one week of the official determination.

Class/Program Cancellations

Perry Technical Institute makes every effort to meet the needs and desires of its students; however, special circumstances may require the school to cancel classes or programs due to insufficient enrollment or funding. The school reserves the right to make such decisions, as warranted.

For more information regarding admission requirements and policies, please contact our Admissions Office in writing, by telephone, or by website: Perry Technical Institute, 2011 W. Washington Ave., Yakima, WA 98903, (509) 453-0374, toll-free (888) 528-8586, or www.perrytech.edu.

Clock Hour/Credit Hour Conversion System

Quarters

10 Hours of Lecture = 1 Credit
20 Hours of Lab = 1 Credit
30 Hours of Externship = 1 Credit

Trimesters

15 Hours of Lecture = 1 Credit
30 Hours of Lab = 1 Credit
45 Hours of Externship = 1 Credit

For Financial Aid and Veterans Affairs purposes, the above conversion factors do not apply.

Course Identification System

Courses have titles represented by letters and numbers. The first two letters refer to the program, and the first number of the following three numbers represents the term.

Example 1: EL – Electrical Technology
104 – 1st trimester
Example 2: VCG – Visual Comm. & Graphic Technology
307 – 3rd quarter

Lettering System

AU	Automotive Technology
CE	Continuing Education
EL	Electrical Technology
IN	Instrumentation & Industrial Automation Technology
ITC	Information Technology & Communication Systems
MA	Machine Technology
MCR	Medical Coding & Reimbursement Specialist
MOA	Computer Applications & Medical Office Administration
OA	Computer Applications & Office Administration
RE	Heating, Ventilation, Air Conditioning & Refrigeration Technology
VCG	Visual Communication & Graphic Technology

Grading

The progress or grading system by which a student will be evaluated is as follows:

GRADE	GPA	GRADE	GPA
A	4.0	C	2.0
A-	3.7	C-	1.7
B+	3.3	D+	1.3
B	3.0	D	1.0
B-	2.7	D-	.7
C+	2.3	F	0

P/F	Pass/Fail
I	Incomplete
W	Withdraw
WP	Withdraw/Pass
WF	Withdraw/Fail
CT	Challenge test

An incomplete grade will revert to a failing grade if it is not completed by the end of the term. Only in the case of a leave of absence will an incomplete be carried into the next term.

Students are given a grade (progress report) upon completion of each term. A copy is sent to the student's counselor (if applicable) and the documentation is maintained in the school's database.

Make-up Work

Make-up work will be available to the student at the discretion of the program instructor.

Graduation Requirements

1. Completion of:
   86.5 credit hours for Automotive Technology, 82 with externship option
   92.5 credit hours for Computer Applications & Medical Office Administration, 90.5 with externship option
   90.5 credit hours for Computer Applications & Office Administration, 88.5 with externship option
   142.5 credit hours for Electrical Technology, 136 with externship option
   216 credit hours for HVAC/R Technology, 210.5 with externship option
   209 credit hours for ITCS, 193 with externship option
   133.5 credit hours for Instrumentation & Industrial Automation Technology, 132 with externship option
   179 credit hours for Machine Technology, 171 with externship option
   45 credit hours for Medical Coding & Reimbursement Specialist (externship mandatory)
   126 credit hours for Visual Communication & Graphic Technology, 114 with externship option
2. Maintain satisfactory progress with a minimum grade point average of 2.0
3. Maintain satisfactory attendance record
4. Maintain proper student conduct
5. Full payment or satisfactory arrangement to fulfill all financial obligations

Certificate of Completion

Each student satisfactorily completing a course of training is granted a Certificate of Completion.

Enrollment Capacity

Automotive Technology	32
Electrical Technology	132
HVAC/R Technology	88
ITCS	96
Instrumentation Technology	132
Machine Technology	40
Medical Coding & Reimbursement	24
Medical Office Administration	24
Office Administration	24
Visual Communication & Graphics	72

Re-enrollment to Perry Technical Institute

Students intending to re-enroll after withdrawing or being dismissed from Perry Technical Institute are required to complete a Re-Enrollment Form that may be obtained from the Registrar.

The form will be reviewed by the specified school officials, their responses noted and signed.

The student must write a letter addressed to the Dean of Education which clearly states the following:

1. The reason for termination
2. The actions taken during the termination period to resolve the problem
3. His/her plan to successfully complete the program

Transcripts

Upon graduation, a graduate will receive an official transcript. Fees are assessed for additional transcripts. Official transcripts are $10 and unofficial transcripts are $3.

Student Services

First Aid/CPR Training

Students are required to have a two-year first aid/CPR certification. Perry Technical Institute offers first aid/CPR classes on campus. The company providing the certification charges the student a fee for this service.

Housing

The school does not provide housing for students. Subject to availability, dorm accommodations are available on the Yakima Valley Community College campus for eligible students. Information on rental units and dorm accommodations may be obtained from Perry's Admissions Office.

Job Placement

The school does not guarantee placement upon completion of a training program. A placement book is available in the Business Office for review. Each department will assist students with:

1. Resume preparation
2. Mock interviews
3. Locating classified ads
4. Company interviews on campus

Student Accident Insurance

Perry Technical Institute requires each enrolled student to participate in the school's Student Accident Insurance. The Student Accident Insurance is mandatory and will be applied to the student's account each term for a fee. Information about Student Accident Insurance and claim forms are available through the Registrar.

Tutoring

The school provides academic tutoring at the discretion of the instructor in order to ensure the student's satisfactory progress through the program. Students on academic probation may be required to attend mandatory tutoring.

Financial Aid

Perry Technical Institute offers a variety of financial assistance to eligible students. Aid in the form of grants, loans, jobs and scholarships help offset the cost of educational expenses.

Financial aid is administered in accordance with established state and federal policies and philosophies. The basis of these policies is the belief that financing a student's education is the responsibility of the student and family.

Eligibility

A student's financial aid award is based on a demonstrated financial need. Need is determined from analysis of the Free Application for Federal Student Aid Form (FAFSA) and the Perry Technical Institute Data Sheet. These forms are analyzed to determine the expected contribution from the student and the student's family toward the educational expenses. Financial need is the difference between total educational expenses for an academic year and the student/family contribution. Financial aid should be viewed as a supplement only after the full resources of the student and family are committed.

Satisfactory Academic Progress

Definition: Students must be making Satisfactory Academic Progress in order to remain eligible for financial aid. Students must complete each term with a minimum GPA of 2.0.

If at the end of the enrollment period, the student is not making satisfactory academic progress, financial aid funds will be terminated. The student will be responsible for funding the next enrollment period and if upon completion of that period the student has the minimum GPA of 2.0 he/she may regain financial aid eligibility.

If, due to extenuating circumstances, the student fails to meet satisfactory academic progress requirements, he or she may appeal the termination of his or her financial aid. Appeals are completed on the Financial Aid General Appeal Form. Based upon its own review of a student's circumstances, the Financial Services Office may make allowable exceptions to the stated satisfactory progress requirements. All such waivers will be reviewed on an individual basis and will take into consideration special circumstances and improved academic performance.

Reinstatement of Aid: Students' financial aid may be reinstated in one of two ways:

1. By having the Financial Aid General Appeal Form approved.
2. By remaining in school and re-establishing compliance with the minimum cumulative GPA and attendance standards.

State Need Grant (SNG) Requirements:

1. A student who has been on probation who fails to make satisfactory academic progress at the end of the term will have his/her SNG terminated. If a student wishes to appeal this decision, see Reinstatement of Aid.
2. Eligibility for SNG will be monitored every term.
3. If a student withdraws and his/her last date of attendance is prior to or at 50% of the term, the SNG repayment will be based on the percent of the term not completed, according to the SNG repayment policy.

Withdrawals (Refunds)

Up through the 60% point in each payment period or period of enrollment, a pro-rata schedule is used to determine how much SFA Program funds the student has earned at the time of withdrawal. After the 60% point in the payment period or period of enrollment, a student has earned 100% of the SFA Program funds.

The amount of financial aid earned is the percentage of aid earned multiplied by the total amount of aid that was disbursed for the payment period or period of enrollment as of the day the student withdrew.

1. If the day the student withdrew occurs on or before the student completed 60% of the payment period or period of enrollment for which the assistance was awarded, the percentage earned is equal to the percentage of the payment period for which assistance was awarded that was completed.
2. If the day the student withdrew occurs after the student has completed 60% of the payment period or period of enrollment, the percentage earned is 100%.

The percentage of the payment period or period of enrollment completed is determined by calculating the total number of calendar days in the payment period divided into the number of calendar days completed in that period as of the day the student withdrew.

Funds will be returned in the following order:

1. Unsubsidized Federal Stafford Loans
2. Subsidized Federal Stafford Loans
3. Perkins Loans
4. Federal/Direct Plus Loans
5. Federal Pell Grants
6. Federal Supplemental Educational Opportunity Grant
7. Washington State Opportunity Grant

Veteran Education Benefits

Perry Technical Institute is approved for training for the following veterans:
Chapter 30 (Montgomery GI Bill – Active Duty Education Assistance Program)
Chapter 31 (Disabled – Vocational Rehabilitation)
Chapter 35 (Survivors and Dependents Education Assistance Program)
Chapter 1606 (Montgomery GI Bill – Selected Reserve Education Assistance Program)
Chapter 1607 (Montgomery GI Bill – Reserve Education Assistance Program)

To apply for benefits, you may obtain an application at Perry Technical Institute or your local VA office. Return completed application to PTI along with a certified copy of your DD214 form. You must also provide copies of transcripts from any other colleges that you have attended. The Veterans Certifying Official will forward applications to the Department of Veterans Affairs.

Military Active Duty Policy

Academic Standing and Re-enrollment:

1. A student leaving for active duty during an academic term will receive an Incomplete.
2. The student should request to resume academic work within six months of returning from active duty.
3. The school will place the student in the earliest possible enrollment period.
4. Upon returning and finishing the academic work for the class section, the Incomplete will be removed and a final grade for that section will be given.

Refund Policy for Active Duty:

1. Refunds will be processed in accordance with the Title IV refund policy when applicable.
2. Upon returning, Military Active Duty students will receive a waiver equal to the amount of prior tuition unless Financial Aid funds were used to pay for that portion.

Perry Technical Foundation Scholarships

In 1992, a group of community volunteers pledged their commitment to Perry Technical Institute by forming Perry Technical Foundation. The foundation's mission is to raise funds for student scholarships, loans, instructional equipment and capital improvements which enrich learning on the Perry campus.

The demand for technical training is rising, but so are the costs. The average total cost of completing a two-year training program at Perry is more than $25,000 and approximately 85% of our students receive some form of financial aid. While some students qualify for state and federal assistance, Perry receives no direct funding from government agencies or from community campaigns such as United Way.

Perry Technical Foundation helps Perry Tech students by seeking support from alumni, community members, foundations and corporations. These gifts enable the foundation to offer scholarships to deserving students working toward their career goals. We believe our partnership with the community is essential to fulfilling our mission of providing technical training within the community to provide the nation with a qualified workforce.

Trimester Tuition Schedule

Electrical and Instrumentation

Summer Trimester – June 24, 2009	$3,460.00
Fall Trimester – October 26, 2009	$3,460.00
Spring Trimester – March 1, 2010	$3,530.00
Summer Trimester - June 28, 2010	$3,702.00
Fall Trimester - October 25, 2010	$3,702.00

Additional Costs (estimates):	Electrical	Instrumentation
Books and Tools	$3,500.00	$3,500.00
Field Trips	650.00	750.00
First Aid/CPR Class	22.00	22.00
Student Accident Insurance (per term)	26.00	26.00
Technology Fee (per term)	20.00	20.00
Lab Fee (per term)	60.00	
Electrical Training Certificate	35.00	
ISA Student Membership Dues		20.00
Field Training Fee (per term)	100.00	

Quarter Tuition Schedule

Automotive, Medical Office Administration, Office Administration, HVAC/R, ITCS, MCRS, Machine and VCG

Summer Quarter – June 24, 2009	$2,595.00
Fall Quarter – September 28, 2009	$2,595.00
Winter Quarter – January 4, 2010	$2,595.00
Spring Quarter – April 5, 2010	$2,647.50
Summer Quarter – June 28, 2010	$2,776.50
Fall Quarter – September 27, 2010	$2,776.50

Additional Costs (estimates):	Auto	MCRS	MOA	OA	VCG	HVAC/R	ITCS	Machine
Books and Tools	$4,000.00	$704.20	$2,620.00	$2,620.00	$3,470.00	$2,300.00	$3,900.00	$3,575.00
Field Trips	150.00	100.00	100.00	100.00	100.00		750.00	300.00
First Aid/CPR Class	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00
Student Accident Insurance (per term)	22.00	22.00	22.00	22.00	22.00	22.00	26.00	22.00
Technology Fee (per term)	15.00	15.00	15.00	15.00	15.00	15.00	20.00	15.00
Lab Fee (per term)		30.00	30.00	30.00	45.00	25.00	35.00	45.00
Protective Clothing Rental (per term)	35.00							
Electrical Training Certificate						35.00		
ITCS Student Membership Dues							25.00	
FCC License Exam							70.00	
Access Certification Exam			74.52	74.52				
Excel Certification Exam			74.52	74.52				
Powerpoint Certification Exam			74.52	74.52				
Word Certification Exam			74.52	74.52				
Certified Professional Coder		300.00						
Industry Certification							100.00	

*The State of Washington does not allow for tax-exemption of items purchased for use in the State of Washington such as books and tools for instruction received in the State of Washington.

Tuition and Fees

Tuition Payment Requirements

Students pay tuition on a quarterly or trimester basis. Tuition is due at the start of each program quarter or trimester. Students with a balance owing will not be allowed to continue into the next enrollment period. There is an optional Tuition Payment Plan (TPP) available which may be subject to a fee and late charges.

Delinquent Accounts

In the event a student's account is delinquent, the student may be required to pay late fees and all reasonable collection costs, including attorney fees and collection agency fees in accordance with Washington State law.

Returned Check Processing Fee

A charge of $32 is assessed each time a student's check is returned by a bank withholding payment.

Refund Policy

In accordance with federal and state regulations, Perry Technical Institute provides fair and equitable adjustment to all students. If the student is entitled to a refund, the refund must be paid within 30 calendar days of the student's official date of termination.

1. An applicant to the school who is rejected will receive a full refund.
2. An applicant whose class is cancelled will receive a full refund.
3. All monies paid by an applicant will be refunded if the applicant cancels within five business days (except Sundays and holidays) following the date the contract is signed or an initial payment is made, as long as the applicant has not begun training.
4. If the applicant cancels after the fifth business day after signing the contract or making initial payment, but prior to attending class, the school will retain the $35 registration fee and refund any other monies paid by the applicant.
5. A student who has not visited the school facility prior to enrollment will have the opportunity to withdraw within three days following either attendance at a regularly scheduled orientation or following a tour of the school facilities and inspection of equipment with a full refund.
6. The school reserves the right to cancel a class start date due to insufficient enrollment. If this occurs, the student may request a full refund of all monies paid or apply all monies paid to the next scheduled class start date.

When calculating refunds, the official date of a student's termination is the last date of recorded attendance:

1. When notification of withdrawal or cancellation is received in writing on an official Perry Technical Institute Termination of Enrollment Form.
2. When the student is dismissed for a violation of a published school policy.
3. When a student, without notice, fails to attend class for 30 calendar days.

The term "period of enrollment for which the student has been charged" is determined by dividing the total number of days that make up the period of enrollment for which the student has been charged into the number of days remaining in that period. Termination date for adjustment computation is the last recorded date of student attendance.

The following schedule is used to calculate refunds:

If the student completes this amount of training:	School refunds to student:
Through the first 10%	90%
10% through 25%	75%
25% through 50%	50%
More than 50%	0%

Any student receiving federal or state financial aid who officially or unofficially withdraws from Perry Technical Institute will have funds returned to the appropriate financial aid program based on the regulations governing the program.

There is no refund for books purchased.

General Information

Program Advisory Committees

Each program at Perry Technical Institute maintains an independent Advisory Committee that meets two times per year to review the established curriculum and comment as to the appropriateness and adequacy of the program objectives, program length, curriculum content, learning resources, facilities and equipment, student graduation, and graduate employment. The majority of the members of each Program Advisory Committee are employers representing the major occupations for which training is provided. Departments with student associations may also include student members as well as instructional staff.

Articulation Agreement with Yakima Valley Community College

A collaborated program between Perry Technical Institute and Yakima Valley Community College provides students with the opportunity to earn an Associate of Applied Science in four technical areas*. Upon acceptance into a designated Perry Technical Institute program, students may begin taking required classes at Yakima Valley Community College. This can be done while waiting for entrance in the technical portion of their degree, while they complete the technical portion or after they completed their technical portion.

An Associate of Applied Science along with the technical program allows students to work more effectively in their chosen field and to help them compete for advanced opportunities in their chosen field. An official referral from Perry Technical Institute is required for students enrolling under terms of this agreement.

In addition to completing their technical program at Perry Technical Institute, students complete 27 credits at Yakima Valley Community College. Credits are designated as core requirements and are required for all programs. For additional information, please contact the Workforce Education Division at Yakima Valley Community College at (509) 574-4744 or (509) 574-4796 (www.yvcc.edu) or Perry Technical Institute at (509) 453-0374.

*Automotive Technology, Computer Applications & Office Administration, Computer Applications & Medical Office Administration, Information Technology & Communication Systems and Medical Coding & Reimbursement Specialist, Visual Communication & Graphic Technology Programs do not have articulation agreements with Yakima Valley Community College.

Comparable Programs

Information about comparable programs, tuition, and length of programs may be obtained by contacting:

Accrediting Commission of Career Schools
and Colleges of Technology
2101 Wilson Blvd., Suite 302
Arlington, VA 22201
Telephone: (703) 247-4212
www.accsct.org

Student Complaint/Grievance Procedure

Perry Technical Institute utilizes policies and procedures for handling student complaints and informs the students in writing of them. When a student has a complaint, he/she is encouraged to follow the chain of command and communicate informally first with the instructor, then the department head and then the Dean of Education. If the student is still unsatisfied, he/she is asked to file a PTI Complaint Form at the Registrar's Office and then encouraged to make an appointment with the President for further discussion and action.

A student may consider contacting the Workforce Training and Education Coordinating Board. Contact information for the Workforce Training and Education Coordinating Board is as follows:

Workforce Training and Education Coordinating Board
128 Tenth Ave. SW
Olympia, WA 98504-3105
Telephone (360) 753-5673.

More information can be obtained by referencing RCW's Title 28C > Chapter 28C.10 or 28C.10.084(10) and 28C.10.120 or WACs > Title 490 > Chapter 490-105 > Section 490-105-180

If a student does not feel that the school has adequately addressed a complaint or concern, the student may consider contacting the Accrediting Commission of Career Schools and Colleges of Technology. All complaints considered by the commission must be in written form, with permission from the complainant(s) for the Commission to forward a copy of the complaint to the school for a response. The complainant(s) will be kept informed as to the status of the complaint as well as the final resolution by the commission. Please direct all inquiries to:

Accrediting Commission of Career Schools and
Colleges of Technology
2101 Wilson Blvd., Suite 302
Arlington, VA 22201
Telephone: (703) 247-4212

A copy of the Commission's Complaint Form is available by contacting Perry's Registrar.

Conduct Standards

Admission to Perry Technical Institute carries with it the expectation that students will conduct themselves as responsible members of the school community, that they will comply with the rules and regulations of the institution, maintain high standards of integrity and honesty, respect the rights, privileges, and property of other members of the school community, and will not interfere with legitimate Perry Technical Institute affairs.

Perry Technical Institute maintains the right to make and enforce rules for conduct. This includes the right to dismiss at any time a student whose conduct, academic standing or health is such that the Administration believes it undesirable for that student to continue at Perry Technical Institute.

A student policy handbook is provided to all new students the first day of class. The booklet provides a complete statement of the policies and procedures and describes student rights and responsibilities which govern students attending Perry Technical Institute, including any disputes involving the school, its faculty or staff and the student.

Drug Free Environment Policy

As a matter of policy, Perry Technical Institute prohibits the unlawful manufacture, possession, use, sale, dispensation, or distribution of controlled substances and the possession or use of alcohol by students and employees on its property and at any school-related activity. Further information on Perry Technical Institute's policies can be found in the Student Handbook. Any violation of these policies will result in appropriate disciplinary actions up to and including dismissal, even for a first offense. Students with "Reasonable Suspicion" may be required to be tested for illegal drug or alcohol abuse. Refusal to do so may result in dismissal from the school.

Violations of the law will also be referred to the appropriate law enforcement authorities. Students may be referred to abuse help centers. If such a referral is made, a leave of absence may be required, and re-enrollment will be subject to successful completion of any prescribed counseling or treatment program.

Unlawful Harassment Policy

All members of Perry Technical Institute's community, including, the faculty, students, and staff, have the right to be free from sexual harassment by any other member of Perry Technical Institute's community. Should a student feel that he/she has been harassed, the student should immediately inform the Dean of Education and/or the President.

Sexual harassment refers to, among other things, sexual

conduct that is unwelcome, offensive, or undesirable to the recipient, including unwanted sexual advances.

All students and employees must be allowed to work and study in an environment free from unsolicited and unwelcome sexual overtures and advances. Unlawful sexual harassment will not be tolerated.

Leave of Absence

A leave of absence is granted only to students who wish temporarily to interrupt their education for the following reasons: medical emergency, military leave, or other family crisis. A leave of absence will not be granted for failure to make satisfactory academic progress.

A request for leave must be made to the Dean of Education, in writing prior to absence, excluding emergencies, or time away from school will be considered an unexcused absence. The written request to the Dean of Education must include a third-party verification of the reason for the leave of absence. Upon approval by the Dean of Education, a Leave of Absence Form must be completed and submitted to the Registrar's Office. The Department of Veterans Affairs and the Financial Aid Office will be notified immediately when the student is granted a leave of absence. A leave of absence will be a maximum of 30 days. Leave requests need to be completed within five days of returning to class.

Liability

Perry Technical Institute is not responsible for loss or damage to personal property or for personal injury occurring while on the school grounds or on field trips.

Parking Permit Policy

All vehicles parked regularly on the Perry Technical Institute campus must have a parking permit visibly displayed on the rearview mirror at all times. If a student forgets his/her parking permit or it is lost or stolen, he/she should report to the Main Office immediately to obtain a temporary permit or to purchase a new permit. Each student is allowed two temporary parking permits per term and after two temporary permits must purchase a new parking permit for $3. If a vehicle is found without a parking permit or in violation of the parking lot regulations, Security will put a parking ticket on the vehicle's windshield describing what action needs to be taken. If the issue is not resolved by the end of the school day, the vehicle may be towed or disciplinary action may be taken. Students who drive multiple vehicles may switch their parking permit between vehicles or purchase another parking permit for $3. All drivers must fill out a Vehicle Registration Form to give the school a record of all vehicles on campus. Students must notify the Main Office if their vehicle information changes

Non-Discrimination Policy

Perry Technical Institute does not discriminate on the basis of race, color, national origin, sex, disability, or age in its programs and activities. The following person has been designated to handle inquiries regarding the non-discrimination policies:

Registrar
Perry Technical Institute
2011 W. Washington Ave.
Yakima, WA 98903
(509) 453-0374 or (888) 528-8586
Seattle Office
Office for Civil Rights
U.S. Department of Education
915 Second Ave., Room 3310
Seattle, WA 98174-1099
Telephone: (206) 220-7900
Fax: (206) 220-7887; TDD: (877) 521-2172
Email: OCR.Seattle@ed.gov

Student Records

Students have the right to review, inspect or release their confidential education records. A student requesting to review their education records shall make the request in writing to the PTI Registrar. The Registrar must be presented with proper identification which may include the student's identification card or a driver's license containing a picture of the student.

Perry Technical Institute maintains a permanent educational record for all currently enrolled students that consists of all admissions, academic, and financial records and information upon which a student's enrollment is based. These records (physical or electronic) must be securely maintained and protected against damage or loss (e.g., fire, water, theft, tampering, etc.).

Perry Technical Institute maintains an official transcript for all formerly enrolled students (i.e., graduates and terminated or withdrawn students). The transcript includes, at a minimum, the program of study; the date of program entry; the date of graduation, termination or withdrawal; and the clock or credit hours and grades earned. An official transcript is available to students upon request and in accordance with the school's policies. The transcripts (physical or electronic) are securely maintained indefinitely and protected against damage or loss (e.g., fire, water, theft, tampering, etc.).

Perry Technical Institute maintains student financial records related to financial aid, tuition and fee payments, and tuition refunds for a minimum of five years. (State or federal regulation or law may require these records to be maintained for a longer period of time.)

Changes

This catalog is current as of the date of publication. Perry Technical Institute reserves the right to make changes at any time to any provision of this catalog, including the amount of tuition and fees; academic programs and courses; Perry Technical Institute policies and procedures; faculty and administrative staff; academic calendar; and other dates and provisions. Perry Technical Institute also reserves the right to make changes in equipment and instructional materials, to modify curriculum and, when size and curriculum permit, to combine classes.

From time to time, it may be necessary or desirable for Perry Technical Institute to make changes to this catalog due to the requirements and standards of Perry Technical Institute's accrediting body, state authorization agency or the United States Department of Education, or due to the market conditions, employer needs or for other reasons.

To see the most current version of the catalog, please visit our website at www.perrytech.edu.

Automotive Technology

The Automotive Technology Program is evaluated by the National Automotive Technicians Education Foundation (NATEF) and certified as a National Institute for Automotive Service Excellence (ASE) Master Training Program.

Prospective students must have a valid driver's license. A good driving record is recommended for job placement. Automotive Technology students are required to wear shop shirts from a local vending service which will be provided by the school. Students will be assessed a quarterly fee for cleaning and repairing. Prior to graduation, students will be responsible for turning in or purchasing the shirts.

Shop training will occur on the Perry campus or in a dealer service department, independent garage or other approved training site. Students interested in externships must make arrangements with the head of the department and are required to have a 3.0 GPA and maintain this grade during their externship.

Students are eligible to begin an externship after completing eight months of the Automotive Program. Externships are also dependent on a satisfactory host site that will provide the job skills training to enhance skills and concepts taught in the Automotive Technology Program. Students will spend one full week at the externship site; the second week they are required to spend the morning in class at Perry Technical Institute and return to their externship site in the afternoon. In the event no externship position exists, students will complete their shop training on campus.

In the Automotive Technology Program, a student must achieve a minimum quarterly GPA of 2.0 in the academic subject material and a 2.0 GPA in lab to maintain satisfactory progress.

Rewarding employment opportunities in the automotive field are numerous and varied throughout the Northwest. The goal for students who successfully complete the course is employment as entry-level technicians in the automotive industry. The Automotive Technology Program is 12 months in length. The student will earn 86.5 credit hours or 82.0 credit hours (externship option) which are 1,344 clock hours. Tuition is payable on a quarterly basis. There are four quarters in an academic year.

Program Outline

			Clock Hours	Credit Hours
Quarter 1	AU 101E	Externship option after eight months	236	7.5
		Or the following lab: AU 101L		
	AU 101	Electrical Systems	100	10.0
	AU 101L	Electrical Systems Lab	236	11.5
		Without Externship	336	21.5
		With the Externship	336	19.0
Quarter 2	AU201E	Externship option after eight months	236	7.5
		Or the following labs: AU 201L and AU 202L		
	AU 201	Engine Performance & Emissions	80	8.0
	AU 201L	Engine Performance & Emissions Lab	161	8.0
	AU 202	Heating & Air Conditioning	20	2.0
	AU 202L	Heating & Air Conditioning Lab	75	3.5
		Without Externship	336	21.5
		With the Externship	336	19.0
Quarter 3	AU 301E	Externship option after eight months	236	7.5
		Or the following labs: AU 301L and AU 302L		
	AU 301	Brake Systems	60	6.0
	AU 301L	Brake Systems Lab	134	6.5
	AU 302	Suspension & Steering	40	4.0
	AU 302L	Suspension & Steering Lab	102	5.0
		Without Externship	336	21.5
		With the Externship	336	19.0
Quarter 4	AU 401E	Externship option after eight months	196	6.5
		Or the following labs: AU 401L, AU 402L and 403L		
	AU 401	Basic Automobile Engine	40	4.0
	AU 401L	Basic Automobile Engine Lab	81	4.0
	AU 402	Automatic Transmission & Powertrain	40	4.0

		Clock Hours	Credit Hours
AU 402L	Automatic Transmission & Powertrain Lab	85	4.0
AU 403	Manual Transmission & Powertrain	30	3.0
AU 403L	Manual Transmission & Powertrain Lab	60	3.0
Without Externship		336	22.0
With the Externship		336	17.5
Program Totals without Externship Option		1344	86.5
Program Totals with Externship Option		1344	82.0

Automotive Technology Course Descriptions

AU 101E Externship
Practical experience in a workplace environment.

AU 101 Electrical Systems
General electrical systems diagnosis; battery diagnosis and service; starter systems diagnosis and repair; charging systems diagnosis and repair; lighting systems diagnosis and repair; gauges and warning systems diagnosis and repair; and accessory systems diagnosis and repair.

AU 101L Electrical Systems Lab
Apply technical knowledge acquired in classroom to lab assignments.

AU 201E Externship
Practical experience in a workplace environment

AU 201 Engine Performance & Emissions
General engine diagnosis, ignition systems diagnosis and repair, fuel, air induction and exhaust systems diagnosis and repair, emission systems and computer engine control systems diagnosis and repair, engine performance related services.

AU 201L Engine Performance & Emissions Lab
Apply technical knowledge acquired in classroom to lab assignments.

AU 202 Heating & Air Conditioning
Refrigerant handling and recovery procedures and certification; heating systems; refrigerant retro-fitting; and control and operating systems diagnosis and repair.

AU 202L Heating & Air Conditioning Lab
Apply technical knowledge acquired in classroom to lab assignments.

AU 301E Externship
Practical experience in a workplace environment

AU 301 Brake Systems
Hydraulic brake system, drum brake systems diagnosis and repair; disc brake systems diagnosis and repair; anti-lock brake system diagnosis and repair; and miscellaneous systems diagnosis and repair.

AU 301L Brake Systems Lab
Apply technical knowledge acquired in classroom to lab assignments.

AU 302 Suspension & Steering
Suspension and steering systems diagnosis and repair; wheel alignment, adjustment and repair; and wheel and tire diagnosis and repair.

AU 302L Suspension & Steering Lab
Apply technical knowledge acquired in classroom to lab assignments.

AU 401E Externship
Practical experience in a workplace environment

AU 401 Basic Automobile Engine
Engine theory and operation; engine maintenance; valve train diagnosis and repair; engine block diagnosis and repair; and engine reassembly and installation.

AU 401L Basic Automobile Engine Lab
Apply technical knowledge acquired in classroom to lab assignments.

AU 402 Automatic Transmission & Powertrain
Automatic transmission theory and operation; drive-line, axle and half-shaft diagnosis and repair; and differential diagnosis and repair.

AU 402L Automatic Transmission & Powertrain Lab
Apply technical knowledge acquired in classroom to lab assignments.

AU 403 Manual Transmission & Powertrain
Manual transmission theory and operation; drive-line, axle and half-shaft diagnosis and repair; and differential diagnosis and repair.

AU 403L Manual Transmissions & Powertrain Lab
Apply technical knowledge acquired in classroom to lab assignments.

Automotive Technology Book and Tool List

The book and tool list for students in the Automotive Technology Program is intended to be a minimum requirement to complete the program.

Book List

The book cost for the Automotive Technology Program is approximately $130. Books may be purchased on the start

date. Changes may be made as more appropriate material is developed or new editions are published. Book prices may vary. The prices stated do not include any mark-up for program students or any sales taxes.

Required Book:
Automotive Technology, Fourth Edition, Jack Erjavec, 2005
Optional Book:
Automotive Tech Certification, Don Knowles, 2001

Tool List

The cost of tools for the Automotive Program is $3,413-$4,300 depending on the brand purchased. During the first week of class, new students will meet with tool vendors to purchase tools. Tool prices may vary. The prices stated do not include any mark-up for program students or any sales taxes. Tool list may vary according to industry requirements.

Antifreeze tester
Allen wrenches, standard (.050”-3/8”) metric (1.5mm-7mm)
Adjustable wrenches - 8” & 12”
Air nipples (5)
Battery tools
- Battery nut pliers
- Battery terminal clamp puller
- Post cleaner, top & side

Blow gun-rubber tip, OSHA approved
Brake tools
- Spring pliers
- Hold-down tool
- Adjustable spoon

Bleeder cup
Chisel & punch set, including:
- Tapered punches
- Pin punches
- Brass drift punch
- Cold chisel
- Cape chisel

Combination wrenches
- Standard – 1/4” -1”
- Metric – 7mm -19mm

Compression tester
Creeper
Digital multi-meter
Dial caliper/w 6” ruler
Drop-light – OSHA approved
Drill – 3/8” – air with adapter
Drill bits – 29 piece, reduced shank, 1/16-1/2
Feeler gauges (2) - straight and angled
Fender covers (2)
File set, three piece, 6” flat, round & triangle
Filter wrenches – oil, 3 1/2”, & 2 7/8”
Flare nut wrenches – 3/8”-11/16”, 3/4”-7/8” (10mm-17mm)
Flashlight with batteries
Hack saw with blades
Hammers
- 16 oz. ball peen
- 48-60 oz. hand sledge
- Dead blow

Air impact ratchet – 1/2” drive, including adapter, with sockets – 1/2”-1 1/8”
Air impact ratchet – 3/8” drive, including adapter
Inspection mirror
Magnetic pickup tool
Micrometer 0-1”
Pliers
- Wire crimping
- Needle nose
- 6” slip joint
- 6” diagonal cutter
- 8” locking pliers
- 10” or 12” adjustable water pump

Pry bar – 16”
Puller set – harmonic balancer
Remote starter switch
Safety glasses
Scraper – gasket
Screwdrivers
- Slot – stubby, #1, #2, #3
- Phillips – stubby, #1, #2, #3

Torx set 3/8” drive – 1/4”-3/8” drive bits and T10-T50
Snap ring plier set – long, med, & small: Truarc & regular
Socket set – 1/4” drive
- Standard shallow 1/4”-9/16”
- Standard deep 3/16”-9/16”
- Metric shallow 4mm-15mm
- Metric deep 6mm-15mm
- Ratchet
- Extension: 2” long, 6” long
- Screwdriver handle
- Adapter – 1/4” -3/8”
- Universal joint – 1/4” drive

Socket set – 3/8” drive
- 1/4”-7/8” standard shallow
- 3/8”-7/8” standard deep
- 6mm-19mm metric shallow
- 10mm-19mm metric deep
- Flex sockets – 3/8” -3/4” (10mm-19mm)
- Ratchet
- Extensions (4) – short, med, long 24”
- Spark plug sockets, 5/8” & 13/16” universal joint
- Adapter – 3/8”- 1/2”
- Universal joint, 3/8” drive

Socket set – 1/2” drive
- Adapters – 1/2” -3/8’, 1/2” -3/4”
- 7/16” -1 1/4” standard shallow
- 1/2” -1 1/4” standard deep
- 10mm-24mm metric shallow
- Ratchet
- Extensions (3) – 2”, 5” & 10”.
- Universal joint – 1/2” drive

Solder gun – 250 watt or greater
Spark plug gap gauge
Spark plug wire remover
Spark tester (in-line)
Steel tape measure – 12’
Stethoscope
Test light – 12 volt
Timing light – induct. pickup
Tire air check, with adapter
Tire pressure gauge
Tire valve core tool
Torque wrench – 1/2” drive, 25-250 ft./lb.
Torque wrench – 3/8” drive, 25-250 in./lb.
Vacuum pump (hand operated)
Wire brush
Rollaway tool box with or without top box adequate to hold required tools with reasonable room for expansion

Computer Applications & Medical Office Administration

The goal of the Computer Applications & Medical Office Administration Program is to prepare graduates for entry-level positions in the growing field of health care office professionals. These are rewarding careers that not only have good advancement potential, but allow graduates to do the kind of work that helps other people.

Graduates of this program will be prepared for positions such as: medical office assistant, medical coder, medical office computer specialist, receptionist, and other support positions in medical offices, hospitals and other health care organizations. This program also prepares graduates to take the Microsoft Certified Application Specialist (MCAS) exams in Word, Excel, Access and PowerPoint; and the National Certification for Medical Office Assistants (NCMOA) exam.

This four-quarter program incorporates in-depth computer training and the basics of working in a health care office.

The first two quarters prepare students to take Microsoft Office Application Specialist (MCAS) certification exams in Microsoft Word, Excel, Access and PowerPoint. By the end of the first two quarters, students will be able to demonstrate a solid understanding of computers including entry-level keyboarding operations and basic maintenance. They will develop an understanding of how to use the Windows operating system and various software applications. They will also learn the importance of career planning and how to develop a positive customer service environment.

In the second two quarters, students learn the basics of working in a medical office setting. Subjects include: Medical Terminology, Anatomy and Physiology, Medical Office Procedures, Basic Diagnostic and Procedures Coding, and Human Diseases. The goal for quarter three and four is for students to be prepared to take the National Certification for Medical Office Assistants (NCMOA) exam. Students will also learn valuable career planning and business communications skills for the medical industry.

Students will learn advanced career planning practices and demonstrate skills and competencies in externship assignments by electing an externship option pending instructor approval. Students must have a “C+” or better in current coursework, must not be under any type of probationary contract, and must complete and submit a regular lab work experience employer evaluation. The instructor may terminate industry work experiences at any time if students do not adhere to these requirements.

The Computer Applications & Medical Office Administration Program is 12 months in length. The student will earn 92.5 credit hours or 90.5 credit hours (externship option) which are 1,344 clock hours. Tuition is payable on a quarterly basis. There are four quarters in an academic year.

Program Outline

			Clock Hours	Credit Hours
Quarter 1	OA 101	Computer Applications I	30	3.0
	OA 101L	Computer Applications I Lab	30	1.5
	OA 105	Business English I	30	3.0
	OA 105L	Business English I Lab	30	1.5
	OA 110	Keyboarding I	12	1.0
	OA 110L	Keyboarding I Lab	18	0.5
	OA 115	Word Processing	30	3.0
	OA 115L	Word Processing Lab	30	1.5
	OA 120	Spreadsheets	30	3.0
	OA 120L	Spreadsheets Lab	30	1.5
	OA 130	Computer Applications II	30	3.0
	OA 130L	Computer Applications II Lab	36	1.5
			336	24.0
Quarter 2	OA 201	Business English II	30	3.0
	OA 201L	Business English II Lab	30	1.5
	OA 205	Database & Integration	44	4.0
	OA 205L	Database & Integration Lab	44	2.0
	OA 210	Keyboarding II	12	1.0
	OA 210L	Keyboarding II Lab	18	0.5
	OA 215	Business Presentation	40	4.0
	OA 215L	Business Presentation Lab	46	2.0
	OA 220	Career Planning I	18	1.5
	OA 220L	Career Planning I Lab	12	0.5
	OA 230	Business Etiquette	18	1.5
	OA 230L	Business Etiquette Lab	24	1.0
			336	22.5

			Clock Hours	Credit Hours
Quarter 3	MOA 301	Anatomy & Physiology	30	3.0
	MOA 301L	Anatomy & Physiology Lab	30	1.5
	MOA 305	Health Care Law & Ethics	30	3.0
	MOA 305L	Health Care Law & Ethics Lab*	30	1.5
	MOA 315	Medical Terminology	35	3.5
	MOA 315L	Medical Terminology Lab*	40	2.0
	MOA 320	Medical Career Planning	15	1.5
	MOA 320L	Medical Career Planning Lab*	20	1.0
	MOA 325	Human Diseases	30	3.0
	MOA 325L	Human Diseases Lab	25	1.0
	MOA 330	Computers in Health Care	25	2.5
	MOA 330L	Computers in Health Care Lab*	26	1.0
			336	22.5
Quarter 4	MOA 401	Customer Service in the Medical Industry	25	2.5
	MOA 401L	Customer Service in the Medical Industry Lab	25	1.0
	MOA 405	Basic Diagnostic Coding	25	2.5
	MOA 405L	Basic Diagnostic Coding Lab	30	1.5
	MOA 410	Basic Procedures Coding	25	2.5
	MOA 410L	Basic Procedures Coding Lab	30	1.5
	MOA 415	Medical Office Procedures	30	3.0
	MOA 415L	Medical Office Procedures Lab	26	1.0
	MOA 430E	Externship	120	4.0
		Or		
	MOA 435	Capstone Project	8	0.5
	MOA 435L	Capstone Project Lab	112	5.5
		Without Externship	336	21.5
		With Externship	336	19.5
		Program Totals without Externship Option	1344	92.5
		Program Totals with Externship Option	1344	90.5

Computer Applications & Medical Office Administration Course Descriptions

OA 101 Computer Applications I
This course covers the basics of computer hardware, software, networks and the internet. The objective is to prepare the student to take the MCAS certification exam.

OA 101L Computer Applications I Lab
Directed lab with structured learning.

OA 105 Business English I
A concentrated review of sentence writing, this course emphasizes sentence combining, basic mechanics and paragraph writing.

OA 105L Business English I Lab
Directed lab with structured learning.

OA 110 Keyboarding I
In this course, students learn beginning typing and 10-key skills. The objectives are for students to learn how to type by touch and how to take a timed keyboarding test for accuracy and speed.

OA 110L Keyboarding I Lab
Directed lab with structured learning.

OA 115 Word Processing
Students learn how to use Microsoft Word for basic and advanced word processing. The objective of this course is to prepare students to take the MCAS certification exam for Word.

OA 115L Word Processing Lab
Directed lab with structured learning.

OA 120 Spreadsheets
Students learn Microsoft Excel and how to build business and financial applications for forecasting, budgeting and basic bookkeeping. The objective of this course is to prepare students to take the MCAS certification exam for Excel.

OA 120L Spreadsheets Lab
Directed lab with structured learning.

OA 130 Computer Applications II
Students learn Microsoft Publisher to create posters, newsletters, flyers and more, covering topics such as: page layout, command frames, table frames, WordArt, background pages and much more.

OA 130L Computer Applications II Lab
Directed lab with structured learning.

OA 201 Business English II
This course emphasizes basic punctuation and grammar rules and covers sentence structure. The course is designed to introduce basic reading skills and to develop basic writing skills. Coursework emphasizes writing from observation as well as writing in response to readings. The focus is on writing sentences which demonstrate a grasp of basic syntax and usage, and writing sound paragraphs which express a main idea clearly and develop it fully with a minimum of errors in sentence structure, punctuation and spelling.

OA 201L Business English II Lab
Directed lab with structured learning.

OA 205 Database & Integration
Students learn how to create and use databases with Microsoft Access. The objective of this course is to prepare students to take the MCAS certification exam for Access. Students will gain exposure to Microsoft Outlook and receive hands-on integration of the entire Microsoft Office Suite.

OA 205L Database & Integration Lab
Directed lab with structured learning.

OA 210 Keyboarding II
In this course students learn how to improve their accuracy and typing speed. Students also learn formatting for personal and business letters, memoranda, simple tabulation techniques, proofreading and editing. This course covers the basics of computer hardware, software, networks and the internet.

OA 210L Keyboarding II Lab
Directed lab with structured learning.

OA 215 Business Presentation
This course provides instruction in developing presentation materials. Students create a variety of charts, graphs and interactive presentations. Microsoft PowerPoint enables users to quickly create high-impact, dynamic presentations, while integrating workflow and ways to easily share information.

OA 215L Business Presentation Lab
Directed lab with structured learning.

OA 220 Career Planning I
This course is designed to teach students how to write a professional resume package and to learn basic interviewing skills.

OA 220L Career Planning I Lab
Directed lab with structured learning.

OA 230 Business Etiquette
This course focuses on the fundamentals of etiquette as it relates to business and business relationships inside and outside the office.

OA 230L Business Etiquette Lab
Directed lab with structured learning.

MOA 301 Anatomy & Physiology
A study of the structure and function of the human body utilizing a system approach. Emphasis placed on the gross and microscopic anatomy as well as the physiology of the cell, skeletal system, muscular system, nervous system, cardiovascular, respiratory, urinary, reproductive, endocrine, digestive, lymphatic, special senses and integumentary systems.

MOA 301L Anatomy & Physiology Lab
Directed lab with structured learning.

MOA 305 Health Care Law & Ethics
This course examines the ethical challenges facing individuals and businesses in modern society. The course utilizes case studies of professionals working in various areas of business and provides guest speakers with real-world experiences.

MOA 305L Health Care Law & Ethics Lab
Directed lab with structured learning.

MOA 315 Medical Terminology
This course is designed to teach students to accurately spell, pronounce and define common medical terms related to major disease processes, diagnostic procedures, laboratory tests, abbreviations, drugs and treatment modalities.

MOA 315L Medical Terminology Lab
Directed lab with structured learning.

MOA 320 Medical Career Planning
Students learn advanced interviewing skills, how to construct a portfolio of their work and job-seeking skills. This course will guide the student through the elements of career planning, including self-understanding, and exploring a variety of medical career paths.

MOA 320L Medical Career Planning Lab
Directed lab with structured learning.

MOA 325 Human Diseases
Emphasis placed on the disease processes affecting the human body via an integrated approach to specific disease entities, including the study of causes, diagnosis and treatment of disease.

MOA 325L Human Diseases Lab
Directed lab with structured learning.

MOA 330 Computers in Health Care
Overview of commonly available software tools used in health care, including introduction to encoding tools and computer-assisted coding software used in today's health care data processing. Introduction to the electronic health record process and medical office database management software found in American health care delivery. Prerequisites: Completion of six semester credits in software applications courses, or passing the school's computer proficiency exam.

MOA 330L Computers in Health Care Lab
Directed lab with structured learning.

MOA 401 Customer Service in the Medical Industry
This course emphasizes how to provide excellent customer service. Effective verbal communication and telephone skills are taught. Problem resolution skills and how to handle difficult situations are important elements of this course. Soft skills such as patience and empathy are stressed.

MOA 401L Customer Service in the Medical Industry Lab
Directed lab with structured learning.

MOA 405 Basic Diagnostic Coding
This course is an introduction to basic diagnostic coding and presents students to the characteristics and conventions of ICD-9-CM and ICD-10-CM (International Classification of Diseases, 9th and 10th Edition, Clinical Modification), and other diagnosis coding systems or code sets (DSM-IV, ICD-0, etc.). Focus is placed on using official coding guidelines correctly and the course includes extensive practice coding exercises.

MOA 405L Basic Diagnostic Coding Lab
Directed lab with structured learning.

MOA 410 Basic Procedure Coding
This course is an introduction to basic procedural coding and present students with the characteristics of CPT-4 (Current Procedural Terminology), HCFPCS (Health Care Financing Administration Common Procedure Coding System) Level II codes, ICD-9-CM Volume III, and ICD-10-PCS. The course focuses on correct code assignment and includes extensive practice coding exercises.

MOA 410L Basic Procedures Coding Lab
Directed lab with structured learning.

MOA 415 Medical Office Procedures
This course introduces and teaches the tasks of a medical office assistant's career: How to perform administrative functions, records management, medical communications, telephone triage, preparing patients charts, scheduling appointments, and an introduction to patient billing and processing insurance claims. Emphasis is placed on developing a working knowledge of concepts, processes and procedures in the billing cycle from point of service to receipt of payment. The course covers how to recognize components of a compliance plan for physician office billing, filing of appeals, etc. and focuses on decision making and critical thinking activities.

MOA 415L Medical Office Procedures Lab
Directed lab with structured learning.

MOA 430E Externship
Students will learn advanced career planning practices and demonstrate skills and competencies in externship assignments by electing an externship option pending instructor approval. Students must have a "C+" or better in current coursework, must not be under any type of probationary contract, and must complete and submit a regular lab work experience employer evaluation. The instructor may terminate industry work experiences at any time if students do not adhere to these requirements.

MOA 435 Capstone Project
Students will be assigned a capstone project which will provide an opportunity to demonstrate competency in their coursework.

MOA 435L Capstone Project Lab
Directed lab with structured learning.

Computer Applications & Medical Office Administration Book and Tool List

The book and tool list for students in the Computer Applications & Medical Office Administration Program is intended to be a minimum requirement to complete the program.

Tool and book costs are approximately $2,365. Purchase or lease a laptop computer before school begins.

Estimated cost of a laptop computer and software is $1,070. The instructor will give details on the first day of school regarding the purchase of your books and supplies. Book and tool prices may vary. The prices stated do not include mark-up for program students or any sales taxes.

Book List

The book cost for Computer Applications & Medical Office Administration is approximately $1,295. Changes may be made as more appropriate material is developed or new editions are published. The book list will be provided along with your course syllabi on your first day of school.

Optional Book:
HOW 11: A Handbook For Office Professionals by Clark & Clark, 2007

Tool List

Laptop computer with appropriate software
Dictionary
USB Flash Drive – 1 GB
Book bag or carrying case

Students may purchase their computer through a vendor of their choice, including: Dell.com Toshiba.com Sony.com Apple.com Hp.com Gateway.com

Staples, Office Max, Best Buy and Office Depot are authorized PC dealers.

Laptop Computer and Accessories.
Approximate cost is $900

Microsoft Vista Operating System
1 GHz 32-bit (x86) or 64-bit (x64) processor
1 GB of system memory
80 GB hard drive with at least 15 GB of available space
Support for DirectX 9 graphics, or higher with:
- WDDM Driver
- 128 MB of graphics memory (minimum)
- Pixel Shader 2.0 hardware
- 32 bits per pixel

Software Required
Approximate cost is $170

Microsoft Office Professional 2007

Computer Applications & Office Administration

The Computer Applications & Office Administration Program is the launching pad toward an entry-level job in a variety of business and office positions such as software applications specialist, bookkeeper, office administrator, secretary and office/clerical positions. These types of positions are in constant demand and serve as the first step up the ladder in an office or business environment.

The first two quarters prepare students to take Microsoft Certified Application Specialist (MCAS) certification exams in Microsoft Word, Excel, Access and PowerPoint. By the end of the first two quarters, students will be able to demonstrate a solid understanding of computers including entry-level keyboarding operations and basic maintenance. They will develop an understanding of how to use the Windows operating system and various software applications. They will also learn the importance of career planning and how to develop a positive customer service environment.

In the second two quarters, students will advance into more specialized subjects. By the end of the second two quarters, students will be required to develop a solid understanding of entry-level desktop publishing and computerized accounting and acquire a higher level of keyboarding skills as they prepare for externships and employment opportunities.

Students will learn advanced career planning practices and demonstrate skills and competencies in externship assignments by electing an externship option pending instructor approval. Students must have a “B” or better in current coursework, must not be under any type of probationary contract, and must complete and submit a regular lab work experience employer evaluation. The instructor may terminate industry work experiences at any time if students do not adhere to these requirements.

The second two quarters prepare students to take the National Registered Bookkeeper (NRB) certification exam.

The Computer Applications & Office Administration Program is 12 months in length. The student will earn 90.5 credit hours or 88.5 credit hours (externship option) which are 1,344 clock hours. Tuition is payable on a quarterly basis. There are four quarters in an academic year.

Program Outline

			Clock Hours	Credit Hours
Quarter 1	OA 101	Computer Applications I	30	3.0
	OA 101L	Computer Applications I Lab	30	1.5
	OA 105	Business English I	30	3.0
	OA 105L	Business English I Lab	30	1.5
	OA 110	Keyboarding I	12	1.0
	OA 110L	Keyboarding I Lab	18	0.5
	OA 115	Word Processing	30	3.0
	OA 115L	Word Processing Lab	30	1.5
	OA 120	Spreadsheets	30	3.0
	OA 120L	Spreadsheets Lab	30	1.5
	OA 130	Computer Applications II	30	3.0
	OA 130L	Computer Applications II Lab	36	1.5
			336	24.0
Quarter 2	OA 201	Business English II	30	3.0
	OA 201L	Business English II Lab	30	1.5
	OA 205	Database & Integration	44	4.0
	OA 205L	Database & Integration Lab	44	2.0
	OA 210	Keyboarding II	12	1.0
	OA 210L	Keyboarding II Lab	18	0.5
	OA 215	Business Presentation	40	4.0
	OA 215L	Business Presentation Lab	46	2.0
	OA 220	Career Planning I	18	1.5
	OA 220L	Career Planning I Lab	12	0.5
	OA 230	Business Etiquette	18	1.5
	OA 230L	Business Etiquette Lab	24	1.0
			336	22.5

			Clock Hours	Credit Hours
Quarter 3	OA 301	Business English III	30	3.0
	OA 301L	Business English III Lab	30	1.5
	OA 305	Business Ethics	30	3.0
	OA 305L	Business Ethics Lab*	30	1.5
	OA 315	Financial Accounting	36	3.5
	OA 315L	Financial Accounting Lab	42	2.0
	OA 320	Career Planning II	15	1.5
	OA 320L	Career Planning II Lab	18	1.0
	OA 325	Business Communications	24	2.0
	OA 325L	Business Communications Lab*	27	1.0
	OA 330	Office Administration	24	2.0
	OA 330L	Office Administration Lab*	30	1.5
			336	23.5
Quarter 4	OA 401	Customer Service	15	1.5
	OA 401L	Customer Service Lab	20	1.0
	OA 405	Employment Preparation	15	1.0
	OA 405L	Employment Preparation Lab	20	0.5
	OA 410	Managerial Accounting	35	3.5
	OA 410L	Managerial Accounting Lab	40	1.5
	OA 415	Entrepreneurship	30	3.5
	OA 415L	Entrepreneurship Lab	40	2.0
	OA 430E	Externship	121	4.0
		Or		
	OA 435	Capstone Project	8	0.5
	OA 435L	Capstone Project Lab	112	5.5
	Without Externship		336	20.5
	With Externship		336	18.5
	Program Totals without Externship Option		1344	90.5
	Program Totals with Externship Option		1344	88.5

Computer Applications & Office Administration Course Descriptions

OA 101 Computer Applications I
This course covers the basics of computer hardware, software, networks and the internet. The objective is to prepare the student to take the MCAS certification exam.

OA 101L Computer Applications I Lab
Directed lab with structured learning.

OA 105 Business English I
A concentrated review of sentence writing, this course emphasizes sentence combining, basic mechanics and paragraph writing.

OA 105L Business English I Lab
Directed lab with structured learning.

OA 110 Keyboarding I
In this course, students learn beginning typing and 10-key skills. The objectives are for students to learn how to type by touch and how to take a timed keyboarding test for accuracy and speed.

OA 110L Keyboarding I Lab
Directed lab with structured learning.

OA 115 Word Processing
Students learn how to use Microsoft Word for basic and advanced word processing. The objective of this course is to prepare students to take the MCAS certification exam for Word.

OA 115L Word Processing Lab
Directed lab with structured learning.

OA 120 Spreadsheets
Students learn Microsoft Excel and how to build business and financial applications for forecasting, budgeting and basic bookkeeping. The objective of this course is to prepare students to take the MCAS certification exam for Excel.

OA 120L Spreadsheets Lab
Directed lab with structured learning.

OA 130 Computer Applications II
Students learn Microsoft Publisher to create posters, newsletters, flyers and more, covering topics such as: page layout, command frames, table frames, WordArt, background pages and much more.

OA 130L Computer Applications II Lab
Directed lab with structured learning.

OA 201 Business English II
This course emphasizes basic punctuation and grammar rules and covers sentence structure. The course is designed to introduce basic reading skills and to develop basic writing skills. Coursework emphasizes writing from observation as well as writing in response to readings. The focus is on writing sentences which demonstrate a grasp of basic syntax and usage, and writing sound paragraphs which express a main idea clearly and develop it fully with a minimum of errors in sentence structure, punctuation and spelling.

OA 201L Business English II Lab
Directed lab with structured learning.

OA 205 Database & Integration
Students learn how to create and use databases with Microsoft Access. The objective of this course is to prepare students to take the MCAS certification exam for Access. Students will gain exposure to Microsoft Outlook and receive hands-on integration of the entire Microsoft Office Suite.

OA 205L Database & Integration Lab
Directed lab with structured learning.

OA 210 Keyboarding II
In this course students learn how to improve their accuracy and typing speed. Students also learn formatting for personal and business letters, memoranda, simple tabulation techniques, proofreading and editing. This course covers the basics of computer hardware, software, networks and the internet.

OA 210L Keyboarding II Lab
Directed lab with structured learning.

OA 215 Business Presentation
This course provides instruction in developing presentation materials. Students create a variety of charts, graphs and interactive presentations. Microsoft PowerPoint enables users to quickly create high-impact, dynamic presentations, while integrating workflow and ways to easily share information.

OA 215L Business Presentation Lab
Directed lab with structured learning.

OA 220 Career Planning I
This course is designed to teach students how to write a professional resume package and to learn basic interviewing skills.

OA 220L Career Planning I Lab
Directed lab with structured learning.

OA 230 Business Etiquette
This course focuses on the fundamentals of etiquette as it relates to business and business relationships inside and outside the office.

OA 230L Business Etiquette Lab
Directed lab with structured learning.

OA 301 Business English III (Writing for Business)
Students learn how to write technical papers, reports, directions, letters and proposals and how to utilize these skills for a career in business.

OA 301L Business English III Lab
Directed lab with structured learning.

OA 305 Business Ethics
This course examines the ethical challenges facing individuals and businesses in modern society. The course utilizes case studies of professionals working in various areas of business and provides guest speakers with real-world experiences.

OA 305L Business Ethics Lab
Directed lab with structured learning.

OA 315 Financial Accounting
Students learn QuickBooks software and basic bookkeeping and accounting skills such as accounts payable, accounts receivable, payroll and general ledger.

OA 315L Financial Accounting Lab
Directed lab with structured learning.

OA 320 Career Planning II
Students learn and study the importance of human resources, financial services, marketing and business communications.

OA 320L Career Planning II Lab
Directed lab with structured learning.

OA 325 Business Communications
Students learn various forms of written business communications and effective verbal communications including proper telephone skills.

OA 325L Business Communications Lab
Directed lab with structured learning.

OA 330 Office Administration
This course is designed to prepare students to manage an office and provides office-related situations including decision-making and critical thinking activities.

OA 330L Office Administration Lab
Directed lab with structured learning.

OA 401 Customer Service
This course emphasizes how to provide excellent customer service. Students learn proper telephone skills, problem resolution skills and how to handle difficult situations.

OA 401L Customer Service Lab
Directed lab with structured learning.

OA 405 Employment Preparation
This course develops the personal and professional skills needed to be successful in business. Topics include confidence building, seeking to understand, beginning with clarity, knowing your personality profile, coping with difficult people, and balancing professional and personal priorities individually and in a team environment.

OA 405L Employment Preparation
Directed lab with structured learning.

OA 410 Managerial Accounting
This course teaches the basic principles and practices of billing, collections, account aging, cash management, account management, report generation and exceptions reporting in an office environment.

OA 410L Managerial Accounting Lab
Directed lab with structured learning.

OA 415 Entrepreneurship
This course focuses on developing and manufacturing a product, obtaining licenses, writing a business plan, selecting suppliers, setting prices, selecting a financial institution, and developing advertisements for a small business.

OA 415L Entrepreneurship Lab
Directed lab with structured learning.

OA 430E Externship
Students will learn advanced career planning practices and demonstrate skills and competencies in externship assignments by electing an externship option pending instructor approval. Students must have a "C+" or better in current coursework, must not be under any type of probationary contract, and must complete and submit a regular lab work experience employer evaluation. The instructor may terminate industry work experiences at any time if students do not adhere to these requirements.

OA 435 Capstone Project
Students will be assigned a capstone project which will provide an opportunity to demonstrate competency in their coursework

OA 435L Capstone Project Lab
Directed lab with structured learning.

Computer Applications & Office Administration Book and Tool List

The book and tool list for students in the Computer Applications & Office Administration Program is intended to be a minimum requirement to complete the program.

Tool and book costs are approximately $2,620. Purchase or lease your laptop computer before school begins.

Estimated cost of a laptop computer and software is $1,170. Your instructor will give details regarding the purchase of your books and supplies on the first day of school. Book and tool prices may vary. The prices stated do not include mark-up for program students or any sales taxes.

Book List

The book cost for Computer Applications & Office Administration is approximately $1,450. Changes may be made as more appropriate material is developed or new editions are published. The book list will be provided along with your course syllabi on your first day of school.

Optional Book:

HOW 11: A Handbook For Office Professionals by Clark & Clark, 2007

Tool List

Laptop computer with appropriate software
Dictionary
Book bag

Students may purchase their computer through a vendor of their choice, including: Dell.com Toshiba.com Sony.com Apple.com Hp.com Gateway.com

Staples, Office Max, Best Buy and Office Depot are authorized PC dealers.

Laptop Computer and Accessories.
Approximate cost is $900

Minimum System Requirements:

Microsoft Vista Operating System
1 GHz 32-bit (x86) or 64-bit (x64) processor
1 GB of system memory
40 GB hard drive with at least 15 GB of available space
Support for DirectX 9 graphics, or higher with:
- WDDM Driver
- 128 MB of graphics memory (minimum)
- Pixel Shader 2.0 hardware
- 32 bits per pixel

Carrying case
USB flash drive – 1 GB

Software Required
Approximate cost is $270

Microsoft Office Professional 2007
QuickBooks

Electrical Technology

The Electrical Technology Program offers students a diversified curriculum that guides them through the process of becoming electricians. During classroom, lab and fieldwork experiences, students gain valuable theory and hands-on application throughout the two-year program.

The State of Washington Department of Labor & Industries recognizes two years of training received from Perry Technical Institute's Electrical Technology Program toward the journeyman certification. Graduates must accumulate an additional 4,000 hours of industrial/commercial electrical work before applying to take their journeyman examination with the State of Washington.

Challenging employment opportunities await graduates of the Electrical Technology Program. If a student wishes to seek an externship with an employer, they may be allowed the opportunity to do so during the EL501E (field wiring) as per externship criteria and for the last 20 school days of training for the EL608E externship (field wiring). The goal for students who successfully complete this course is gainful employment as third-year electrical trainees. The two largest groups of potential employers are electrical construction contractors and electrical departments in manufacturing industries.

The Electrical Technology Program is 24 months in length (six trimesters). The student will earn 142.5 credit hours or 136.0 credit hours (externship option) which are 2,784 clock hours. Labor & Industries does not separate break times and credits 3,000 hours towards classroom participation. Tuition is payable on a trimester basis. There are three trimesters in an academic year.

Program Outline

			Clock Hours	Credit Hours
Trimester 1	EL 101	Applied Electrical Math	65	4.0
	EL 102	Safety Orientation/School Rules	8	.5
	EL 103	Industrial First Aid & CPR	8	.5
	EL 104	Safety Meetings	15	1.0
	EL 105	DC Fundamentals	105	7.0
	EL 106	National Electric Code/WAC Code	138	9.0
	EL 107	Introduction to Voltage Systems	25	1.5
	EL 108	Wiring Practices & Switch Hook-ups	50	3.0
	EL 109L	Lab and Shop Projects	50	1.5
			464	28.0
Trimester 2	EL 201	AC Theory Single Phase	100	6.5
	EL 202	AC Motors	30	2.0
	EL 203	DC Motors & Generators	30	2.0
	EL 204	NEC Review & Testing	30	2.0
	EL 205	National Electric Code Articles 430 & 440	35	2.0
	EL 206	Electro-Mechanical Motor Controls	104	6.5
	EL 207	Safety Meetings	15	1.0
	EL 208L	Lab & Shop Projects	120	4.0
			464	26.0
Trimester 3	EL 301	Introduction to Digital	45	3.0
	EL 302	Programmable Logic Controllers	115	7.5
	EL 303L	Lab & Shop Projects	115	3.5
	EL 304	NEC Review & Testing	14	0.5
	EL 305	Blueprint Reading	50	3.0
	EL 306	NEC & Load Sizing Calculations	110	7.0
	EL 307	Safety Meetings	15	1.0
			464	25.5
Trimester 4	EL 401	AC Theory, Three Phase & Power Factor	60	4.0
	EL 402	Three-Phase Systems & Distribution	50	3.0
	EL 403	Transformer Connections	55	3.5
	EL 404	NEC Articles 450, 500, 680	40	2.5
	EL 405	NEC & Calculations Review	30	2.0
	EL 406	Utility Regulations & WAC Code Rules	44	2.5
	EL 407	Conduit Bending & Wiring Practices	40	2.5
	EL 408L	Lab & Shop Projects	130	4.0
	EL 409	Safety Meetings	15	1.0
			464	25.0

			Clock Hours	Credit Hours
Trimester 5	501E	Externship	464	10.0
	Or			
	EL 501L	Lab (Supervised Field Work)	464	15.0
Trimester 6	EL 601	Solid State Electronic Fundamentals	90	6.0
	EL 602	Transistors & Operational Amplifiers	40	2.5
	EL 603	Variable Speed Drives	50	3.0
	EL 604	NEC & Theory Review & Test	50	3.0
	EL 605L	Lab & Shop Projects	75	2.5
	EL 606	Safety Meetings	15	1.0
	EL 607	Resume/Job Search	20	1.0
	EL 608L	Lab	124	4.0
			464	23.0
	Or			
	EL 608E	Externship	124	2.5
			464	21.5
		Program Totals without Externship Option	2784	142.5
		Program Totals with Externship Option	2784	136.0

Electrical Technology Course Descriptions

EL 101 Applied Electrical Math
Working fractions, factoring, transposing equations, powers of 10, working with exponents, unit conversions, trigonometric functions and the Pythagorean Theorem. Applying these math facts to the following: Ohm's Law, The Power Formulas, along with other AC and DC theory which need accrual circuit values solved.

EL 102 Safety/Orientation/School Rules
Requirements for safety of students and instructors to lead them into the standard practices of industry and proper care and use of school and personal property.

EL 103 Industrial First Aid & CPR
Each student is required to have a valid Industrial First Aid & CPR card. An outside agency approved to teach Industrial First Aid & CPR classes and issue cards performs this service.

EL 104 Safety Meetings
Each week there will be a safety meeting for the Electrical Department. The meeting has a safety curriculum and a safety video that are covered with the students. Accident reports and unsafe condition reports are reviewed.

Safety demonstrations are performed to show the correct way to use tools, ladders, scaffoldings and other equipment needed in the electrical trade. Industrial product representatives also demonstrate their product lines when available. The students elect safety officers to represent the Electrical Program at the school's monthly safety committee meeting.

EL 105 DC Fundamentals
Basic electrical definitions, current flow through electrical circuits, conventional current flow, series, parallel and series-parallel circuits.

EL 106 National Electric Code
Minimum standards for installing and maintaining electrical installations and the maintenance of the systems by NFPA (National Fire Protection Association) based on the most current edition of the code. Laws, rules and regulations that supersede the National Electric Codes minimum standards and are enforced and practiced in the industry

EL 107 Introduction to Voltage Systems
Names, schematics, grounding, configurations and hook-ups of the single-phase transformers used in the industry.

EL 108 Wiring Practices & Switch Hook-ups
Proper installation of wire, functions and wiring switches, receptacles and lighting fixtures.

EL 109L Lab & Shop Projects
The labs consist primarily of students doing switch hooks-ups using non-metallic cable, metallic cable and wire run in conduit.

EL 201 AC Theory Single Phase
RL, RC and RLC series circuits and the effects of the inductive and capacitive reactance. Impedance and power factor.

EL 202 AC Motors
Single-phase motor hook-ups; reversing externally reversible motors; four major parts of a motor; run winding/start windings; using an OHM meter; and properly connect to line voltages. Three-phase wye connected; high and low voltage connections; delta high and low voltage connections; identify, drawing and numbering 9 and 12 lead wye and delta motors; and reversing three-phase motors.

EL 203 DC Motors & Generators
Differences and similarities between DC motors and generators; calculating the counter EMF generated in the armature of the motor; performance characteristics of DC shunt, series and compound motors; assigning correct polarity to interpoles installed in DC motors; drawing the process of controlling speed of various DC motors; drawing the process of reversing the rotation of any DC motor; determining the speed regulation of DC motors; and calculating power losses and horsepower output of DC motors.

DC generator operations; components of a DC generator; function of various generator components; the theory of operation of different types of DC generators; advantages and disadvantages of different types of generators; recognizing different kinds of generators by their construction details hook-up; schematic diagrams of different generator configurations; connecting generator windings in accordance with established practices; connecting rheostats for the purpose of controlling voltage output; mathematical calculations to predict electrical quantities related to generators; and the costs of electrical power, efficiency and horsepower ratings.

EL 204 NEC Code Review & Testing
Code evaluation, reviewing the code covered in the E1 section of the program.

EL 205 National Electrical Code Articles 430 & 440
NEC Article 430 – Motor feeder short-circuit and ground-fault protection; motor disconnecting means; motor branch-circuit , short-circuit and ground-fault protection; motor circuit conductor; motor controller; motor control circuits; motor overload protection; thermal protection; secondary controller; secondary conductors; and secondary resistors.

NEC Article 440 – Code Section applying to sizing the conductor and protection to central electric space heating equipment; sizing the circuit conductors and protection for a five-horsepower motor used as a blower; the differences in the rules between motors and air conditioning when installing a disconnecting means; sizing the circuit protection device and conductors to an individual air conditioning unit; and testing laboratories' requirements for short-circuit and ground-fault protection and the requirements for air conditioners.

EL 206 Electro-Mechanical Motor Controls
The principles of two- and three-wire controls and the use of relays, mag-starters, timers, sensors, along with the symbols and ladder diagrams needed to make a successful control installation. Photoelectric controls, thru-beam, retroflective, diffused and specular types will be addressed. Inductive and capacitive proximity sensors and pressure sensors will be utilized in discussion and lab exercises.

EL 207 Safety Meetings
Each week there will be a safety meeting for the Electrical Department. The meeting has a safety curriculum and a safety video that are covered with the students. Accident reports and unsafe condition reports are reviewed.

Safety demonstrations are performed to show the correct way to use tools, ladders, scaffoldings and other equipment needed in the electrical trade. Industrial product representatives also demonstrate their product lines when available. The students elect safety officers to represent the Electrical Program at the school's monthly safety committee meeting.

EL 208L Lab & Shop Projects
Using ladder diagrams, students install the wiring to motor control lab stations. Students will also do troubleshooting after the instructor bugs the station.

EL 301 Introduction to Digital
Logic gates, numbering systems and conversions, along with combination logic.

EL 302 Programmable Logic Controllers
Programmable logic controllers focus on Allen-Bradley PLC5, Allen-Bradley SLC500 series, as well as various small fixed I/O type PLCs. The software covered is the RsLogix500, RsLogix5 and RsLinx. Programming concepts range from basic programming to the use of analog. PLC installation, wiring and troubleshooting are also covered in this course.

EL 303L Lab & Shop Projects
The students will use logic diagrams to program inputs and outputs into the PLC, and monitor real-world devices. Students will run the program, observe the process run and troubleshoot problems.

EL 304 NEC Review & Testing
Code evaluation of previously covered code articles.

EL 305 Blueprint Reading
Terms, symbols, layout, organization and structure of plans that are used for residential, commercial and industrial buildings. Identification of code violations and conflicts of space use and safety issues.

EL 306 NEC & Load Sizing Calculations
Covering code Articles 220 and 240 calculating the ampacity of service conductors, feeder conductors, branch circuit conductors, and the amp rating of the panels and load centers they supply, along with the overcurrent devices used to protect them.

EL 307 Safety Meeting
Each week there will be a safety meeting for the Electrical Department. The meeting has a safety curriculum and a safety video that are covered with the students. Accident reports and unsafe condition reports are reviewed.

Safety demonstrations are performed to show the correct way to use tools, ladders, scaffoldings and other equipment needed in the electrical trade. Industrial product representatives also demonstrate their product lines when available. The students elect safety officers to represent the Electrical Program at the school's monthly safety committee meeting.

EL 401 AC Theory, Three-Phase & Power Factor
Single-phase RL, RC, RLC parallel circuits, vectors, power-factor and correction. Understanding the relationships between current, voltage and power in three-phase configurations. Three-phase RL, RC, RLC circuits, vectors, power factor and correction in wye and delta configurations.

EL 402 Three-Phase Systems, Distribution & Power-Factor Corrections
Operational characteristics of three-phase generators and their connection to transformers for the purpose of cross-country power transmission. Circuit characteristics of the transmission and distribution system, the purpose and function of power substations and local power distribution concepts.

EL 403 Transformer Connections
ASA, NEMA and industrial standards for transformer lead identification and polarity requirements. Practical application of single-phase isolation type transformer configurations. Practical application of three-phase configurations for isolation-type transformers. Practical application of single- and three-phase buck and boost autotransformers.

EL 404 National Electric Code Articles 450, 500 & 680 NEC
NEC Article 450 – Code requirements for sizing of transformers conductors and overcurrent protection.

NEC Article 500 – Requirements for the use of the Class, Division, Group and Zone system and the general installation requirements for electrical wiring and apparatus utilized in hazardous locations

NEC Article 680 – Applying the provisions of Article 680 to swimming pools, fountains and similar installations. Forming shell, dry, wet or no niche, pool cover electrically operated, receptacles, lighting fixtures, lighting outlets, switch devices, ceiling suspended paddle fans, electric pool water heaters, underground wiring locations, disconnecting means, permanently installed pools, grounding bonding requirements and common bonding grids, and spa and hot tub requirements

EL 405 NEC & Calculations Review
Evaluation of previously covered code and wire sizing calculations.

EL 406 Pacific Power Requirements, WAC & Utility Regulations
Requirements of our local serving utility, Pacific Power. Topics covered will include, but are not limited to, service lateral burial depths, overhead service height requirements, conduit sizing in relation to service ampacities, use of rigid metal conduit, use of PVC conduit, CT installation requirements, support requirements for overhead services and proper use of Pacific Power's required forms and documents. Washington Administrative Code (WAC) and Revised Code of Washington (RCW) requirements for the electrical industry including, but not limited to: electrical industry scopes of work, licensing qualifications, exams, fees, penalties, types of certifications and continuing education requirements.

EL 407 Conduit Bending Practices
Introduction to the use of hand, hydraulic and PVC conduit benders. Lab exercises will include the following: predetermined 90 degree stubs, predetermined offsets, box offsets, back-to-back 90 degree stubs, three-bend saddles, four-bend saddles and kicks.

EL 408L Lab & Shop Projects
The student will practice applied wiring techniques in various hands-on exercises and labs including, but not limited to: conduit bending, switch connections, single- and three-phase power factor correction, transformer connections, non-metallic cable, metallic cable, wire pulling, panel, box and device installation and connections.

EL 409 Safety Meetings
Each week there will be a safety meeting for the Electrical Department. The meeting has a safety curriculum and a safety video that are covered with the students. Accident reports and unsafe condition reports are reviewed.

Safety demonstrations are performed to show the correct way to use tools, ladders, scaffoldings and other equipment needed in the electrical trade. Industrial product representatives also demonstrate their product lines when available. The students elect safety officers to represent the Electrical Program at the school's monthly safety committee meeting.

EL 501E Externship
On-the-job training projects doing hands-on electrical wiring installations in residential and commercial buildings. All trainee electrical installations are supervised by a journeyman electrician and inspected by the Department of Labor and Industries. Completion of an externship packet is required.

EL 501L Lab (Supervise Field Work)
On-the-job training projects doing hands-on electrical wiring installations on campus and some field work when available. All trainee electrical installations are supervised by a journeyman.

EL 601 Solid State Electronic Fundamentals
Function and operation of diodes, SCRs, triacs, diacs, UJTs and their use in rectification and control of current by the switching of PN junctions.

EL 602 Operational Amplifiers
Construction, theory and operation of transistors and their applications to control voltage levels. Basic operation and theory of the op-amp, variations of connections, using negative feedback.

EL 603 Variable Speed Drives
Fundamentals and functions of both DC motor drives and AC variable frequency drives.

EL 604 NEC & Theory Review & Testing
Code and theory evaluation, covering material in previous sections of the training program.

EL 605L Lab & Shop Projects
Lab time will give the students the opportunity to apply the use of training equipment including oscilloscopes, signal generators and DC power supplies, used with solid state components to determine how and why they operate. Variable frequency drives used with motors and motor controllers will allow the students the hands-on training to help reinforce the classroom teaching to keep up with industry demands

EL 606 Safety Meetings
Each week there will be a safety meeting for the Electrical Department. The meeting has a safety curriculum and a safety video that are covered with the students. Accident reports and unsafe condition reports are reviewed.

Safety demonstrations are performed to show the correct way to use tools, ladders, scaffoldings and other equipment needed in the electrical trade. Industrial product representatives also demonstrate their product lines when available. The students elect safety officers to represent the Electrical Program at the school's monthly safety committee meeting.

EL 607 Resume/Job Search
Preparation for an effective job search. Resume preparation, interviewing skills and the job application process.

EL 608E Externship (Field Wiring)
Students who have had a job offer as an electrician may leave the program and work in the field under a training extern agreement with Perry Technical Institute, the employer and the student. Completion of an externship packet is required

EL 608L Lab
Student training projects doing hands-on electrical wiring installations on campus. All trainee electrical installations are supervised by an instructor.

Electrical Technology
Book List, Tool List and Field Trips

The book and tool list for students in the Electrical Technology Program is intended to be a minimum requirement to complete the program.

The book and tool list for students in the Electrical Technology Program is intended to be a minimum requirement to complete the program.

Tool and book costs are approximately $3,000. The tools and books may be purchased anywhere you choose. Please make sure that your purchases are equivalent to the listed items. Tools will be required within the first six weeks of school. Books are available at Perry Technical Institute. Students may purchase all their books at the beginning or as classes progress. Students must, however, have their books with them at the beginning of each new trimester.

Touring industrial facilities such as hydroelectric dams, steam generation sites, manufacturing plants and mills is educational and of great benefit to electrical trainees. Students will be required to attend any field trips scheduled by the instructor during the course. The cost of field trips can run between $600 to $700 and will be at the student's expense.

Book List

The book cost for the first section of the Electrical Technology Program is $430. Total book costs equal approximately $1,100. Changes may be made as more appropriate material is developed or new editions are published. Book prices may vary. The prices stated do not include any mark-up for program students or any sales taxes.

Required Books:

10 DGT .89 FNCT Solar Sci Calculator
Ferm's Fast Finder
Motor Control Templates
National Electric Code
Stallcup Electrical Design
DC Fundamentals
Tom Henry NEC Tabs
Understanding the National Electrical Code Vol. I & II
Code Changes Text, as needed every three-year cycle
AC Fundamentals
Electrical Motor Controls
Conduit Bending
Allan Bradley Program Instruction Set
Programmable Logic Controllers
Printreading NEC
The Electrical Plan Reading Work Book
Electronics for Industrial Electricians
Variable Speed Drives
Power Quality Measurement and Troubleshooting

Optional Books:

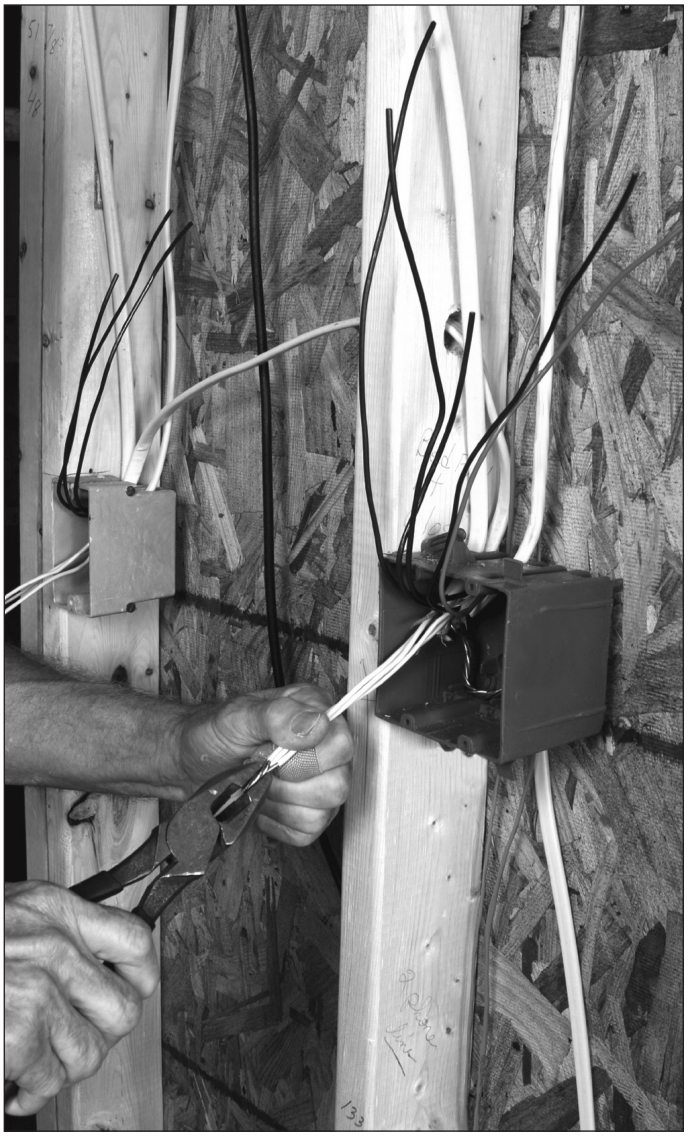
Analysis of National Electrical Code
Electrical General EICP/IAEI
Electrical Motor Repair
NEC Generic LL Tab

Tool List

Tool prices may vary. The prices stated do not include any mark-up for program students or any sales taxes.

In-line GFCI cord protector
Two 12" channel lock pliers
Two 16" channel lock pliers
Industrial flashlight w/batteries
1/2"-2" ratchet KO set
Wire stripper (10 -18 AWG solid)
Romex stripper #14/2 NM-B to #12/2 NM-B
Romex stripper #10/2 NM-B to #12/2 NM-B
Electrical Romex stripping knife for #14/3 NM-B, #12/3 or #10/3 NM-B & larger
Fuse puller (medium size)
Crimp tool
7" needle nose pliers
9" lineman's pliers

8” angle cutters
3/16” X 10” slotted screw-holding screwdriver
Right hand or left hand nail pouch
6” expanded jaw crescent wrench
12” expanded jaw crescent wrench
1/2” conduit bender and handle
3/4” conduit bender and handle
Conduit reaming tool
Tin snips
1/2” X 12” round file
1” X 12” flat file
Slim triangle file 3/8” X 8”
Tool pouch eight-pocket extra capacity tool pouch
2” tool pouch belt
Stubby screwdriver (1-1/2” square shank) standard
Stubby screwdriver (1-1/2” square shank) #2 Phillips
4” square shank screwdriver standard
8” square shank screwdriver standard
4” shank screwdriver # 2 Phillips
6” cabinet tip screwdriver
#2 LR driver for locked recessed square screws
1/4” x 4 1/4” center punch
6” shank speed driver standard
Large folding Allen wrench set (3/16” - 3/8”)
Small folding Allen wrench set (1/6” - 5/32”)
20 oz. straight claw hammer with non-conductive handle
1” x 25’ steel rule
Magnetic torpedo level (no dog)
Safety glasses – clear
20-piece 3/8” drive socket set
Utility knife
15-piece drill bit set
9-piece end wrench set (1/4” - 3/4”)
Tool box or bag
Hard hat
Nut driver set – long shank
Fluke T5-1000 digital voltage tester (V-Ω-A)
Fluke 87 – 5E digital multi-meter kit
12 lab alligator double clip leads 12”
12” hacksaw
Sheet rock saw
Carpenter square
Plumb bob
Chalk line box & chalk
1/2” heavy-duty electric drill
Low-temp solder station (iron & holder)
Solder sucker
Lockout /tagout set
Cordless drill – 12 volt, 1/2” chuck
Tips for cordless drill :
1 each – 2”, 4” & 6” long standard tip
2”, 4” & 6” long #2 Phillips tip
2”, 4” & 6” long #2 LR (locked recess) tip
Small protractor



Heating, Ventilation, Air Conditioning & Refrigeration Technology

Perry Technical Institute's two-year HVAC/R Technology Program is divided into four sections: 1) HVAC/R Fundamentals 2) Residential/Light Commercial HVAC/R 3) Commercial Refrigeration and 4) Industrial HVAC/R. Classroom and shop training prepares students to enter the HVAC/R industry as qualified entry-level technicians who enjoy outstanding employment opportunities. The students learn the curriculum through classroom and extensive hands-on training in lab-related instruction.

Perry Technical Institute's HVAC/R Program is approved by Washington State Department of Labor & Industries as a 06A HVAC/R Specialty Electrical Training Program. Graduates will be credited with one year (or 2,000 hours) towards the two years (or 4,000 hours) required by the State of Washington to be eligible to take the certification exam for the 06A HVAC/R Specialty Electrical License.

Students have the opportunity to gain industry certifications in several areas, giving them competitive advantages in the employment market. If a student wishes to seek an externship with an employer, they would be allowed the opportunity to do so during the last 20 school days of training. The HVAC/R Technology Program is 24 months in length. The student will earn 216 credit hours (class option) or 210.5 credit hours (externship option) which are 2,784 clock hours. Tuition is payable on a quarterly basis. There are four quarters in an academic year.

Program Outline

			Clock Hours	Credit Hours
Quarter 1	RE 101	Electrical & Tool Safety	10	1.0
	RE 102	First Aid	5	0.5
	RE 103	Applied Mathematics for Electricity & Electronics	40	4.0
	RE 104	Electrical/HVAC/R Tools & Equipment	15	1.5
	RE 105	Refrigerant EPA Regulations	7	0.5
	RE 106	The Refrigeration System, Electrical & Mechanical	65	6.5
	RE 107	Equipment Retrofit of Oils & Refrigerants	5	0.5
	RE 108	Electrical/HVAC/R Computer Software	14	1.0
	RE 109	Electrical Fundamentals	30	3.0
	RE 110	Interpreting Schematic & Ladder Diagrams	27	2.5
	RE 111L	Silver Brazing Lab	10	0.5
	RE 112L	Laboratory Projects/Shop Work	120	6.0
			348	27.5
Quarter 2	RE 200	The Refrigeration System, Electrical/Mechanical	45	4.5
	RE 201	Interpreting Schematic & Ladder Wiring Diagrams	45	4.5
	RE 202	Fundamentals of Electricity	40	4.0
	RE 203	Electric Heat Operating & Safety Controls	68	6.5
	RE 204L	Laboratory Projects/Shop Work	150	7.5
			348	27.0
Quarter 3	RE 301	Industrial & Electrical Safety	20	2.0
	RE 302	Proper Use of Tools & Equipment	30	3.0
	RE 303	Proper Use & Handling of Refrigerants	20	2.0
	RE 304	Indoor Air Quality	30	3.0
	RE 305	Electrical Motors & Diagrams	37	3.5
	RE 306	Controls & Theory	20	2.0
	RE 307	Heating & Cooling Equipment	30	3.0
	RE 308L	Laboratory Projects/Shop Work	47	2.0
	RE 309L	Sheet Metal Lab	14	0.5
	RE 310L	Application of Heating & A/C Lab	75	3.5
	RE 311L	Application of Controls Lab	25	1.0
			348	25.5

			Clock Hours	Credit Hours
Quarter 4	RE 400	Electrical Diagrams	20	2.0
	RE 401	Heating & Cooling Equipment	20	2.0
	RE 402	Theory of Combustion	20	2.0
	RE 403	Psychrometrics	20	2.0
	RE 404L	Application of Heating & A/C Lab	67	3.0
	RE 405	Residential Duct Design	28	2.5
	RE 406L	Application of Controls Lab	25	1.0
	RE 407	Residential Load Calculations	30	3.0
	RE 408	Air Distribution & Balance	20	2.0
	RE 409	Oil Heat	10	1.0
	RE 410L	Oil Heat Lab	10	0.5
	RE 411L	Laboratory Projects/Shop Work	68	3.0
			348	24.0
Quarter 5	RE 501	WAC & NEC for HVAC/R	25	2.5
	RE 502	Commercial Systems & Components	50	5.0
	RE 503	Troubleshooting Commercial Systems	25	2.5
	RE 504	Electrical Theory, Circuits, Controls & Wiring Schematics	62	6.0
	RE 505	Commercial Compressors	15	1.5
	RE 506	Refrigerant Retrofits	20	2.0
	RE 507	Evaporators, Condensers & Cooling Towers	10	1.0
	RE 508L	Laboratory Projects/Shop Work	141	7.0
			348	27.5
Quarter 6	RE 601	WAC & NEC for HVAC/R	25	2.5
	RE 602	Commercial Systems & Components	20	2.0
	RE 603	Electrical Theory-Circuits, Controls & Wiring Schematics	45	4.5
	RE 604	Heat Load & Piping Calculations for Commercial Equipment	40	4.0
	RE 605	Commercial Ice & Ice Cream Machines	35	3.5
	RE 606	Ultra-Low Temperature Systems	20	2.0
	RE 607	Troubleshooting Commercial Systems	32	3.0
	RE 608L	Laboratory Projects/Shop Work	131	6.5
			348	28.0
Quarter 7	RE 701	Direct Digital Controls	55	5.5
	RE 702	Central Fan Systems	20	2.0
	RE 703	Pneumatic Systems	20	2.0
	RE 704	Industrial Chiller & Boiler Systems	65	6.5
	RE 705	Water Treatment for HVAC Systems	15	1.5
	RE 706	Hydronic Heating Systems	30	3.0
	RE 707	Residential/Commercial HVAC/R Systems Review	45	4.5
	RE 708L	Laboratory Projects	98	4.5
			348	29.5
Quarter 8	RE 801	Industrial & Ammonia Plant Safety	30	3.0
	RE 803	Industrial Compressors	40	4.0
	RE 804	Industrial Maintenance	30	4.0
	RE 805	Industrial Electrical Systems	40	3.0
	RE 806	Residential/Commercial HVAC/R Systems Review II	38	4.0
	RE 807L	Laboratory Projects	130	3.5
			348	28.0
	OR			
	RE 808E	Externship	130	4.0
			348	25.5
		Program Totals without Externship Option	2784	216.0
		Program Totals with Externship Option	2784	210.5

RE 101 Electrical & Tool Safety
Safety topics for both the classroom and shop environment. Specific tools, procedures and equipment.

RE 102 First Aid
First aid and CPR training. First aid card given upon completion of class.

RE 103 Applied Mathematics for Electricity & Electronics
Mathematics used for electrical theory, series/parallel/combination electrical circuits, algebraic formulas, exponents, electronic units of measure, Ohm's Law, Watts Law/Power, areas and volume. Application for mathematics will continue to be covered during second quarter of instruction.

RE 104 Electrical/HVAC/R Tools & Equipment
Safety practices and working concepts of electrical measuring instruments, hand tools, including tools and equipment such as Voltmeter, Ammeter, Ohmmeter, refrigerant recovery equipment, vacuum pumps, oxy-acetylene torches, thermistor vacuum gages and gage manifolds.

RE 105 Refrigerant EPA Regulations
The rules and regulations concerning the handling of refrigerants. Upon successful completion, student will become universally certified under the 608 provisions of the Environmental Protection Agency.

RE 106 The Refrigeration System, Electrical & Mechanical
Four main components of a mechanical compression refrigeration system, each of their functions within the system including the pressures and temperatures associated with each component, along with fluid flow, state change, heat transfer both sensible and latent. Motor operation, function, troubleshooting, replacement and maintenance.

RE 107 Equipment Retrofit of Oils & Refrigerants
Retrofitting existing systems with an alternative refrigerant due to costs and/or environmental concerns. Alternative refrigerants characteristics including changes in pressures, temperatures, charging techniques, and compatible oils.

RE 108 Electrical HVAC/R Computer Software
Training on computers using software specifically tailored to the needs of the refrigeration technician. Software concentrates on the fundamentals required to be successful in the trade including electrical fundamentals; series, parallel and combination electrical circuits; operation of electrical components; operation of volt and ohmmeters; electrical troubleshooting by application and use of electrical diagrams and electrical meters; area and volume calculations; types of heat and heat transfer; gas laws; temperature scales (Fahrenheit, Celsius, Rankin and Kelvin); absolute and gage pressures; pressure enthalpy diagrams; and function and operation of compressor, evaporator, condenser and metering devices.

RE 109 Electrical Fundamentals
Electrical safety, atomic structure, electron flow theory, voltage current resistance relationships (Ohm's Law); heating, operating and safety controls; heat and magnetism produced by current flow; electrical, series and parallel circuits; resistive and inductive loads; conductors (hot, neutral and safety ground); and measuring instruments. 120-volt circuits.

RE 110 Interpreting Schematic & Ladder Diagrams
Tracing of electric circuits and the study of controls, their use and installation. Conversion of schematic to ladder diagrams. The development of electrical diagrams so as to meet required system operation. Sequence of operation of equipment by "reading" electrical diagrams. Troubleshooting by use of electrical diagrams.

RE 111L Silver Brazing Lab
Introduction to proper joining of copper to copper and copper to steel tubing by use of oxy-acetylene torches.

RE 112L Laboratory Projects/Shop Work
Practical application of classroom instruction on actual equipment. Application and use of electrical and HVAC/R tools and equipment. Introduction to servicing residential refrigerators and freezers. Lab time includes the following: electrical checks, wiring and operations of relays, capacitors, cold controls, defrost controls, heaters, thermostats, compressor and fan motors. Mechanical checks of the refrigeration system. Repair of customer equipment on campus.

RE 200 The Refrigeration System, Electrical & Mechanical
Expansion of material on the four main components of a mechanical compression refrigeration system includes motor operation, function, troubleshooting and wiring.

RE 201 Interpreting Schematic & Ladder Wiring Diagrams
Tracing of electric circuits and the study of controls, their use and installation. Conversion of schematic to ladder diagrams. The development of electrical diagrams so as to meet required system operation. Sequence of operation of equipment by "reading" electrical diagrams. Troubleshooting by use of electrical diagrams.

RE 202 Fundamentals of Electricity
Expansion of material on electrical fundamentals including electrical safety, voltage current resistance relationships, Ohm's Law, heat and magnetism produced by current flow, electrical circuits, series and parallel circuits and 120-, 240- and 24-volt circuits.

RE 203 Electric Heat Equipment Operating & Safety Controls
Electrical/electrical mechanical/solid state and mechanical operating and safety controls. Introduction to operating and safety controls as related to domestic refrigeration systems and electric forced air furnaces. Theory, application and operation of these controls so as to allow students to apply this knowledge on various equipment types. 120-, 240- and 24-volt controls. Introduction to residential forced air electric furnaces and controls. Topics include maintenance, airflow calculations, temperature rise, and reading and developing wiring diagrams. Operation and troubleshooting of electric heat sequencers, transformers, thermostats, motors, capacitors, heating elements, safety devices, relays and contactors.

RE 204L Laboratory Projects/Shop Work
This section of the course is used for practical application of principles introduced in the classroom. Lab time includes an emphasis on electrical measurements for troubleshooting and hands-on wiring of equipment. Electrical checks, wiring and operations of relays, capacitors, single and multi-speed single phase fractional horsepower motors (shaded pole, PSC, CSR) heaters, low-voltage heat/cool thermostats, compressor and fan motors. Shop time is used for wiring, troubleshooting and maintaining controls as well as actual operation and troubleshooting of electric furnaces and their controls.

RE 301 Industrial & Electrical Safety
Review and reinforcement of shop safety procedures and techniques. Introduction to fall protection and ladder safety with emphasis on application of all safety-related concepts in the workplace or shop environments. Proper lockout/tagout of electrical equipment, as well as equipment safety grounding procedures. NEC compliance Articles 100 and 250.

RE 302 Proper Use of Tools & Equipment
Proper use and application of tools utilized in the HVAC trade. Examples of tools would include refrigerant recovery equipment, vacuum pumps, electronic scales and micron gauges. Proper use of digital multi-meters, ammeters and temperature analyzers is emphasized.

RE 303 Proper Use & Handling of Refrigerants
Safe handling of refrigerants. Proper HVAC system charging, refrigerant recovery and applications of R-22 and R-410A.

RE 304 Indoor Air Quality
The fundamentals of air filtration, including all types of air filters associated with residential and light commercial HVAC systems, from disposable air filters to state-of-the-art electronic air cleaners. Humidification and types of humidifiers are covered as well.

RE 305 Electric Motors & Wiring Diagrams
Interpretation of both ladder and pictorial type wiring diagrams. ARI standard graphic electrical symbols are introduced and applied to electrical diagrams. All types of single-phase motors are discussed. NEC compliance using Article 430.

RE 306 Controls & Theory
Introduced to specific controls and control strategies that relate to residential and light commercial HVAC/R systems. Types of controls included range from residential and commercial programmable setback thermostats to HVAC system protection controls and safeties. NEC compliance, Article 725 and Table 11A.

RE 307 Heating & Cooling Equipment
Residential and light commercial HVAC equipment, both packaged and split systems. Heating systems covered include fossil fuel units, such as natural and LP gas units. Oil heating systems, electric heating and heat pump systems.

RE 308L Laboratory Projects/Shop Work
Typical lab projects will include tasks such as soldering, steel pipe threading, wiring and proper refrigerant charging of A/C units.

RE 309L Sheet Metal Lab
Basic sheet metal fabrication concepts. Fabrication of several sheet metal projects using not only purchased sheet metal hand tools, but the heavier shop fabrication equipment associated with HVAC duct systems. Examples include hand-operated brakes, manual and electro-mechanical shears.

RE 310L Application of Heating & A/C Lab
Application of concepts learned in the classroom to operational HVAC equipment. Hands-on orientation and application of mechanical and electrical concepts as they relate to residential and light commercial HVAC/R equipment.

RE 311L Application of Controls Lab
Application of control strategies to wire and operate several types of HVAC equipment. Types of systems include heat pumps, oil, gas and electric forced air HVAC systems. Both packaged and split systems are addressed.

RE 400 Electrical Diagrams
Interpretation of both ladder and pictorial type wiring diagrams relating to residential and light commercial HVAC systems. Additional ARI standard graphic electrical symbols are introduced and applied to electrical diagrams. NEC compliance using Article 300.

RE 401 Heating & Cooling Equipment
Residential and light commercial HVAC equipment, both packaged and split systems. Heating systems covered include fossil fuel units, such as natural, LP gas units, oil heating systems, electric heating and heat pump systems.

RE 402 Theory of Combustion
Combustion process relating to fossil fuel heating systems. Fuel types included are natural, LP gas and oil. Venting of combustion by-products by induced draft and gravity draft. Proper combustion vent sizing utilizing equipment manufacturer approved AGA/GAMA sizing tables.

RE 403 Psychrometrics
Introduction to psychrometrics: defined as the study of air and its properties. The psychrometric chart is utilized for better understanding the process of conditioning air.

RE 404L Application of Heating & A/C Lab
Application of concepts learned in the classroom to operational HVAC equipment. Hands-on orientation involving application of mechanical and electrical concepts as they relate to residential and light commercial HVAC equipment. NEC compliance.

RE 405 Residential Duct Design
Introduction to duct design process. Residential duct design utilizing the Manual D duct design method published by Air Conditioning Contractors of America (ACCA).

RE 406L Application of Controls Lab
Application of control strategies learned in the classroom to wire and operate several types of HVAC equipment. Types of systems include heat pumps, oil, gas and electric forced air HVAC systems. Both packaged and split systems are addressed.

RE 407 Residential Load Calculation
Residential load calculation utilizing the Manual J load calculation method published by Air Conditioning Contractors of America (ACCA). Correct sizing of the heating and cooling equipment is covered.

RE 408 Air Distributions & Balance
Basics of air distribution and balancing residential and light commercial HVAC air delivery systems. Introduction to several types of air system side components such as grills, registers and diffusers. Proper application of each type of air delivery component. Introduction to equipment typically used for air balancing.

RE 409 Oil Heat
Application of knowledge learned in the classroom to the lab/shop environment. All laboratory/shop tasks are performed on functional oil furnaces. The scope of tasks involves electrical wiring, mechanical operation and combustion analysis of oil heating systems.

RE 410L Oil Heat Lab
Oil heating systems focusing on high pressure, gun-type oil burners that utilize number two fuel oil. Ignition primary control systems include both stack and cadmium cell types. Other subjects covered include fuel pump pressure regulation, fuel nozzle sizing, venting and combustion analysis.

RE 411L Laboratory Projects/Shop Work
Completion of several lab projects including wiring, airflow calculation and combustion analysis tasks performed on functional HVAC equipment.

RE 501 WAC & NEC for HVAC/R
RCW 19.28, WAC 296-46A, WAC 296-401B and articles from the NEC will be covered.

RE 502 Commercial Systems & Components
Use of pressure controls relating to commercial equipment including low-pressure controls, high-pressure controls and fan cycling controls. Operating pressures and temperatures required for the different applications of commercial equipment. Different refrigerant controls used in commercial refrigeration including thermal expansion valves, automatic expansion valves, capillary tubes, crankcase pressure regulators, evaporator pressure regulators, solenoid valves, head pressure control valves and pressure differential valves. Installation, setting and proper wiring methods as specified by NEC will be covered for a wide variety of control applications.

RE 503 Troubleshooting Commercial Systems
Mechanical and electrical problems that occur within commercial equipment. Recognizing symptoms, identifying the problem and formulating a solution. Proper usage of meters and instruments as well as safety procedures will be covered.

RE 504 Electrical Theory, Circuits, Controls & Wiring Schematics
Operations of electrical controls as applied to commercial refrigeration including relays, contactors, motor starters, fan delays, temperature-actuated controls and a variety of switching devices. Single-phase 120/240-volt, three-phase 240/480-volt as well as Delta High Leg will be covered. Wiring and operating characteristics of a wide variety of motors will be covered. Manufacturers' electrical schematics and control strategies as applied to commercial systems. Wiring and control strategies. Installation, setting and proper wiring methods as specified by NEC will be covered for a wide variety of control/motor applications.

RE 505 Commercial Compressors
Replacement of compressors and related electrical starting components. Testing of motor windings and related electrical starting components. Interpretation of manufacture electrical performance charts under all conditions. Operations and evaluation of commercial compressors for all applications. Efficiency tests of compressors in and out of systems. Installation and proper wiring methods as specified by NEC will be covered for a wide variety of compressor applications.

RE 506 Refrigerant Retrofits
Replacement refrigerants used in place of the CFC refrigerant now banned by EPA. Proper techniques for oil changes and charging procedures for the alternative refrigerants. The effect of retrofits affecting motor amp draw as well as possible fan installation and electrical control adjustments to prevent motor overheating and motor overload.

RE 507 Evaporators, Condensers & Cooling Towers
Components that transfer heat within the refrigeration system including evaluating, servicing, maintaining, repairing and replacement of the various components. Installation, setting and proper wiring methods as specified by NEC will be covered for a wide variety of motor applications.

RE 508L Laboratory Projects/Shop Work
Hands-on evaluation and repair of a wide variety of live refrigeration equipment. Drawing of electrical diagrams and the wiring of systems to match their electrical diagram. Recognizing a symptom, identifying the problem and formulating a solution. Ability to set, adjust and evaluate a wide variety of refrigerant and electrical controls under different conditions. Installation, setting and proper wiring methods as specified by NEC will be covered for a wide variety of control applications.

RE 601 WAC & NEC for HVAC/R
RCW 19.28, WAC 296-46A, WAC 296-401B, and articles from the NEC will be covered.

RE 602 Commercial Systems & Components
Use of pressure controls relating to commercial equipment including low-pressure controls, high-pressure controls, oil pressure safety controls and fan cycling controls. Operating pressures and temperatures required for the different applications of commercial equipment. Different refrigerant controls used in commercial refrigeration including thermal expansion valves, automatic expansion valves, capillary tubes, crankcase pressure regulators, evaporator pressure regulators, solenoid valves, oil pumps, head pressure control valves and pressure differential valves. Installation, setting and proper wiring methods as specified by NEC will be covered for a wide variety of control applications.

RE 603 Electrical Theory, Circuits, Controls & Wiring Schematics

Operation of electrical controls as applied to commercial refrigeration including relays, contactors, motor starters, fan delays, temperature-actuated controls, and a variety of switching devices. Single-phase 120/240-volt, three-phase 240/480-volt as well as Delta High Leg will be covered. Wiring and operating characteristics of a wide variety of motors will be covered. Manufacturers' electrical schematics and control strategies as applied to commercial systems. Wiring and control strategies. Installation, setting and proper wiring methods as specified by NEC will be covered for a wide variety of control/motor applications.

RE 604 Heat Load & Piping Calculations for Commercial Equipment

Calculation of the heat gain due to infiltration and product load for medium and low temperature applications. Proper piping and installation of commercial equipment using sizing charts and piping schematics to learn the various piping techniques involved with commercial systems for medium and low temperature applications. Proper sizing of equipment based on BTUH requirements as well as voltages, amp draw and phase of electricity available. Installation, setting and proper wiring methods as specified by NEC will be covered for a wide variety of installation applications.

RE 605 Commercial Ice & Ice Cream Machines

Examination of a wide variety of ice and ice cream machines. Water-related problems as well as operational, mechanical and electrical problems involving ice and ice cream machines. Installation of well as service will be covered. Emphasis is put on the reading and interpretation of the manufactures wiring schematics. Installation, setting and proper wiring methods as specified by NEC will be covered for a wide variety of ice and ice cream machine applications.

RE 606 Ultra-Low Temperature Systems

Ultra-low temperature systems including training on cascade and compound systems. Pressures and temperatures as well as wiring methods and wiring schematics for ultra-low temperature equipment will be covered. Installation, setting and proper wiring methods as specified by NEC will be covered for a variety of low temperature applications.

RE 607 Troubleshooting Commercial Systems

Mechanical and electrical problems that occur with commercial equipment. Recognizing symptoms, identifying the problem and formulating a solution. Proper usage of meters and instruments as well as safety procedures will be covered.

RE 608L Laboratory Projects/Shop Work

Hands-on evaluation and repair of a wide variety of live refrigeration equipment, including ice machines, ice cream machines and ultra-low temperature units. Basic arc and acetylene welding will be covered. Drawing of electrical diagrams and the wiring of systems to match their electrical diagram. Recognizing a symptom, identifying the problem and formulating a solution. Ability to set, adjust and evaluate a wide variety of refrigerant and electrical controls under different conditions. Installation, setting and proper wiring methods as specified by NEC will be covered for a wide variety of control applications.

RE 701 Direct Digital Control Systems

Control terminology and fundamentals of computer control as applied to HVAC/R Energy Management Systems. Types of control systems: network wiring, types of inputs and outputs and system configurations. NEC compliance using Chapters 2, 3 and 9. Lab work will include: Wiring direct digital control simulators (including communication cables), component wiring of input boards, output boards, modems, sensors and controlled devices.

RE 702 Central Fan Systems

Types of fan systems used in large industrial facilities: including proportional motor control operation of dampers, heating valves, chilled water valves and humidification requirements. Electrical control of these systems will be covered in detail. This includes the NEC compliance, using Chapters 2, 3 and 9.

RE 703 Pneumatic Systems

Fundamentals of pneumatic systems: including air supply, sensors, actuators, transmitters and receiver controllers. Operation and maintenance of these components will be discussed for use in HVAC systems. Electrical wiring of end control devices, air compressors and refrigerated air dryers will be taught. This includes the NEC compliance, using Chapter 2, 3 and 9.

RE 704 Industrial Chiller & Boiler Systems

Industrial air conditioning systems using chilled water. Compressor types, evaporator chiller barrels, water-cooled condensers, air-purgers, absorption systems and low-pressure refrigerant. Electrical safety, diagnostics and troubleshooting; oil temperature and pressure safety controls, capacity control wiring, high-pressure refrigerant and water flow controls. Operation and maintenance of large industrial boilers including high and low pressure design, water tube and fire tube models, vertical and horizontal types. The types of fuel systems used. Boiler safety controls including low-water cutoff, high-water cutoff, water-makeup and ignition systems. This includes the NEC compliance, using Chapters 2, 3 and 9.

RE 705 Water Treatment for HVAC Systems

Fluid coolers, cooling towers and boilers require technicians to maintain the water quality for proper heat exchange. Metal corrosion and higher energy costs are the results of neglect of these components. Students will learn why chemical treatment is necessary, the types of chemicals used, conductivity testing, PH balance and chemical feed systems.

RE 706 Hydronic Heating Systems

Systems that heat with hot water or steam including boiler types, system piping, water pumps, expansion tanks and ignition control systems. Boiler control wiring including: high-limit safety controls, aquastats and pressure relief valves will be covered. Geothermal heat pumps, open and closed loop piping systems, electrical controls, troubleshooting and related campus equipment will be covered. This includes the NEC compliance, using Chapters 2, 3 and 9.

RE 707 Residential/Commercial HVAC/R Systems Review I

Review of residential/commercial HVAC/R systems will be conducted throughout the seventh quarter. Students will be preparing for employment in companies repairing various types of HVAC/R equipment. This overview of material will reinforce information taught in previous sections of the program. The troubleshooting, wiring and repair of these systems will be discussed. This includes the NEC compliance, using Chapters 2, 3 and 9.

RE 708L Laboratory Projects

Lab time will give the students the opportunity to apply the skills they have learned. Training equipment, lab projects, computer simulators and on-site service work will allow the student hands-on training to help reinforce the classroom teaching.

RE801 Industrial & Ammonia Plant Safety

Safety precautions when using anhydrous ammonia for refrigeration. Safe handling and response to ammonia spills including industrial plant safety. Working with heavy equipment and high voltage equipment in an industrial facility. Safety working around three-phase 480-volt equipment. Process Safety Management (PSM), industrial plant safety plans and evacuation plans for facilities that contain 10,000 pounds or more of ammonia including code compliance, operator training, emergency response procedures and risk reduction. This includes the NEC compliance using Chapters 2, 3 and 9.

RE802 Ammonia Refrigeration & Electrical Systems

Components used in ammonia systems including direct expansion systems, brine systems, flooded systems, accumulators, evaporative condensers, hot gas defrost, water defrost and associated controls. Evaporators and components used with flooded systems including gravity flooded, liquid re-circulation systems, surge tanks, low pressure receivers, float switches, metering devices and oil draining procedures. Cold storage and controlled atmosphere storage facilities including the refrigeration systems, room temperatures, long-term storage requirements, oxygen and carbon dioxide control, humidity control and nitrogen purging. This includes the NEC compliance using Chapters 2, 3 and 9.

RE803 Industrial Compressors

Types of compressors found in industrial HVAC/R systems: including operation and maintenance of reciprocating, centrifugal and screw compressors. Three-phase 240/480-volt systems including; Wye/Delta, part winding start and autotransformers will be covered. Disassembly and repair of industrial compressors including taking measurements using inside and outside micrometers, and calipers to determine the condition of internal parts. Cylinders, crankshafts, pistons and rods along with inspection of suction and discharge valves. This includes the NEC compliance, using Chapters 2, 3 and 9.

RE804 Industrial Maintenance

Maintenance requirements for industrial facilities including preventive maintenance for compressors, drive motors, water treatment and refrigeration equipment. Maintenance of evaporative condensers, defrost systems and OSHA compliance. Recognition of electrical safety hazards in and around the mechanical equipment room. This includes the NEC compliance, using Chapters 2, 3 and 9.

RE805 Industrial Electrical Systems

The examination and interpretation of complex electrical circuits will be taught. Conversion of schematic to ladder diagrams and the sequence of operation of the assigned equipment. Three-phase 240/480-volt systems wiring used in the operation and safety controls associated with industrial HVAC/R systems including part winding start, Y-Delta start, across the line start, compressor-starting systems. Oil temperature and pressure safety controls. Capacity control wiring, refrigerant pressure and water flow controls. This includes the NEC compliance, using Chapters 2, 3 and 9.

RE806 Residential/Commercial HVAC/R Systems Review II

Review of residential/commercial HVAC/R systems will be conducted throughout the seventh quarter. Students will be preparing for employment in companies repairing various types of HVAC/R equipment. This overview of material will reinforce information taught in previous sections of the program. The troubleshooting, wiring and repair of these systems will be discussed. This includes the NEC compliance, using Chapters 2, 3 and 9.

RE807L Laboratory Projects

Lab time will give students the opportunity to apply the skills they have learned. Training equipment, lab projects, computer simulators and on-site service work will allow the student hands-on training to help reinforce the classroom teaching.

RE808E Externship

In lieu of on campus training, during the last 20 school days, students are allowed the opportunity to take full-time employment with their future employer.

HVAC/R Technology Book and Tool List

The book and tool list for students in the HVAC/R Program is intended to be a minimum requirement to complete the program. The prices stated do not include any mark-up for program students or any sales taxes. **Tool and book costs are approximately $2,400.**

Book List

Book costs for the HVAC/R Technology Program are approximately $600. Books are to be purchased the first day of class. Changes may be made as more appropriate material is developed or new editions are published. Book prices may vary. The prices stated do not include any mark-up for program students or any sales taxes.

Refrigeration and Air Conditioning Technology, 6th edition, Whitman and Johnson
Fundamentals of Residential Controls (a programmed course), Honeywell
Copeland Service Manuals 1 through 5 and Electrical Handbook
Basic Math for Electricity, Singer
Tecumseh Manuals (Hermetic Compressor Data) and (Electrical Service Parts Guide Book)
Calculator with Trig. Function
Wiring Simplified, H.P. Richter and W.C. Schwan

NEC Electrical Code Book (Spiral-bound version)
Key Word Index for the NEC Code Book (Tom Henry)
NEC Tabs for Spiral Bound Version (Tom Henry)
1 test fee and study guide for EPA 608 certification
Two-Year Electrical Trainee Card (Do NOT purchase before first day of class)
The Job Hunting Handbook
1 Cattrax Refrigeration Student Workshop Software
1 Cattrax Electrical Student Workshop Software

Tool List

The tools in List #1 can be purchased anywhere you choose and you may begin purchasing those tools before you start school. Please do not purchase the tools in list #2 until after you begin training. Both tool lists will be required within the first month. Tool prices may vary.

List #1

Stubby driver combo Phillips & standard
Phillips driver #0 & small standard
Phillips driver #1
Phillips driver #2
Screwdriver 3/16" x 4"
Screwdriver ¼" x 4"
Screwdriver 5/16" x 6"
Screwdriver 3/8" x 8"
Off-set screw driver kit
Nut driver 1/4"
Nut driver 5/16"
Combination end wrench set 1/4"- 3/4"
Adjustable end wrench 10"
Hex key (Allen) 15-piece set 1/16" -3/8"
Plumbers pliers 10" (channel locks)
Diagonal cutters 8"
Long nose pliers 8"
Flat file 10" (mill)
Hacksaw frame
Hacksaw blades 12" x 32 teeth *order 3 each
Hacksaw blades 12" x 18 teeth *order 2 each
Scratch awl
Steel tape measure (10' x 1/2")
Safety glasses with side shields
Flashlight (with magnet recommended)
Batteries for flashlight
Pocket inspection mirror 14" extension
Drop light with receptacle 16/3 wire x 25'
Ball peen-hammer 8 oz.
Wire brush
Wire stripper/crimper
Roll electrical tape Scotch-33
One pair thin leather work gloves
2 jumper wires or 2 red & 2 black alligator clips with insulated boots to make jumper wires
Tool bag
1 clipboard
Tube reamer
11-in-1 Screwdriver to include T10, T15 torx and #1, #2 square drives

List # 2

Vise grip pinch-off tool
Valve stem wrench
Little "Imp" tube cutter
Big "Imp" tube cutter
Caliper rule 4" or longer
Glycerin-filled gauge low-side
410 A gauge manifold kit with high performance hoses
Fluke 52 temperature analyzer
Two extra temperature probes for Fluke 52 (4 total)
Leak-detecting solution (bubbles)
UEI DL 49 clamp on ammeter
Fluke 116 HVAC multimeter
Alligator clip accessories for Fluke Model 116
Robinair brass core removal tool
J.B. piercing valves
1 pound silver braze rod
1/4" flare x 1/8" pipe half union
Adapter 90-degree (Seal Right, low loss fitting)
1 Troy oz. 56% silver solder
Silver solder flux paste
Small stainless steel brush
Roll sanding cloth
Tube bender for 1/4", 5/16",3/8" ACR copper tubing
Swaging – flaring kit (1/4" to 5/8")
1/4" flare union

Information Technology & Communication Systems

The goal of the Information Technology & Communication Systems Program is to provide graduates with the wide variety of skills necessary to obtain entry-level employment and achieve success in their careers. Throughout two years of training, the combination of classroom, lab and field projects provides students with the proper balance of theory and hands-on experience. Numerous industry certifications such as CompTIA, Cisco and FCC can be achieved with the knowledge gained through this process. The program is approved by the State of Washington as a two-year Limited Energy (06) Specialty Electrical training program.

The two-year training program is divided into four six-month sections of curriculum. In the first section there is instruction in CompTIA A+ Personal Computer Maintenance, server administration and intro to data networking. This section allows the student to achieve a working knowledge of their personal computer's hardware components, software, and basic networking. In addition, the first section concentrates on electronics technology with training in applied mathematics for electronics, DC and AC electronics and solid state theory, to give the student the fundamentals necessary to progress through the advanced curriculum of the next three sections. Heavy emphasis is placed on lab projects and hands-on training, which reinforces the learning process.

Section two builds on the electronics theory covered in the first section with applications to transistors, operational amplifiers, digital electronics and wireless technology. Numerous hands-on lab projects allow the student to reinforce the classroom theory with practical applications.

Section three offers the highly respected training curriculum of the Cisco Networking Academy. The Cisco Academy provides innovative instruction in network hardware configuration and prepares the student for Cisco Certification. The training in this section will enable the student to seek a career and achieve success in information technology as a PC-network technician and enable him/her to advance to network management positions. The training in this section prepares the student for the IP-based systems covered in the last section of training.

Section four exposes students to voice telephony, with installation procedures of equipment and cabling. Local loop, key systems, PBXs, computer telephone integration, VoIP and voice mail systems are also covered. Installation standards for public address and sound systems and fire and security alarm systems are covered in accordance with the National Electrical Code and National Fire Protection Association. Installation of actual systems in a lab environment is included to give the student practical experience. Throughout the two-year training, the students prepare themselves for the workforce. Resume writing, interview skills and documentation of their experience at Perry Technical Institute in a portfolio enable the student to conduct an effective job search.

Employment opportunities continue to expand as business and industry become more dependent on information and communication systems and the internet. There is a high demand for trained technicians who install, configure and maintain the equipment that enable us to communicate effectively.

The Information Technology & Communication Systems Program is 24 months in length (eight quarters). The student will earn 209 credit hours (193 with optional externship) which are 2,688 clock hours. Tuition is payable on a quarterly basis. There are four quarters in an academic year.

Program Outline

			Clock Hours	Credit Hours
Quarter 1	ITC 101	Applied Mathematics for Electronics I	140	14.0
	ITC 102	Electronics: DC/AC Fundamentals	130	13.0
	ITC 104L	Laboratory Instruction	66	3.0
			336	30.0
Quarter 2	ITC 201	Applied Mathematics for Electronics II	66	6.5
	ITC 202	Personal Computers A+	130	13.0
	ITC 204L	PC A+ Laboratory Instruction	140	7.0
			336	26.5
Quarter 3	ITC 301	Communications & Wireless Electronics I	130	13.0
	ITC 302	Digital Electronics I	80	8.0
	ITC 304L	Laboratory Instruction	126	6.0
			336	27.0
Quarter 4	ITC 401	Communications & Wireless Electronics II	150	15.0
	ITC 402	Digital Electronics II	60	6.0
	ITC 404L	Laboratory Instruction	126	6.0
			336	27.0

			Clock Hours	Credit Hours
Quarter 5	ITC 501	Cisco Networking I	60	6.0
	ITC 501L	Cisco Laboratory Instruction I	106	5.0
	ITC 502	Cisco Networking II	50	5.0
	ITC 502L	Cisco Laboratory Instruction II	120	6.0
			336	22.0
Quarter 6	ITC 601	Cisco Networking III	60	6.0
	ITC 601L	Cisco Laboratory Instruction III	106	5.0
	ITC 602	Cisco Networking IV	50	5.0
	ITC 602L	Cisco Laboratory Instruction IV	120	6.0
			336	22.0
Quarter 7	ITC 701	Basic Telephony & Cabling Standards	80	8.0
	ITC 702	Voice Communication Systems I	116	11.5
	ITC 703	Employment Search: Resumes & Interview Skills	20	2.0
	ITC 705L	Laboratory Instruction	120	6.0
			336	27.5
Quarter 8	ITC 800	Externship Option	336	11.0
	OR			
	ITC 802	Voice Communication Systems II	130	13.0
	ITC 804	Limited Energy: Alarm & Amplified Sound Systems	80	8.0
	ITC 805L	Laboratory Instruction	126	6.0
			336	27.0
		Program Totals	2688	209.0
		Program Totals with Externship	2688	193.0

Information Technology & Communication Systems Course Descriptions

ITC 101 Applied Mathematics for Electronics I
Mathematics required to evaluate and understand the electronic circuits and equipment which will be covered.

ITC 102 Electronics: DC Fundamentals
DC circuit operation and components, including test equipment and tools.

ITC 104L Laboratory Instruction
Application of the technical knowledge acquired in the classroom to practical electronic circuits. The concepts of teamwork, analytical problem solving and troubleshooting are introduced. The students begin preparing a portfolio, documenting their experiences and training through the program.

ITC 201 Applied Mathematics for Electronics II
A continuation of Quarter 1 Mathematics for Electronics. Emphasis is placed on the math necessary to understand AC circuits and decibel power calculations.

ITC 202 Personal Computers A+
Theory, operation, assembly and maintenance of personal computer hardware and peripheral devices. Operation of PC operating systems, including software installation, management, utilities and troubleshooting. Students introduced to Microsoft server installation and configuration of users, groups, shares and networking services. Preparation for the CompTIA A+ Certification.

ITC 204L Laboratory Instruction
Application of the technical knowledge acquired in the classroom to the assembly, upgrade and maintenance of personal computers. Hands-on preparation for the CompTIA A+ certification.

ITC 301 Communications & Wireless Electronics I
Advanced DC and AC electronics, transistors, and integrated circuit operational amplifiers utilized as voltage amplifiers, active filters and oscillators. Radio frequency theory, noise, bandwidth and RF oscillators. AM transmitters and receivers.

ITC 302 Digital Electronics I
Boolean algebra and binary arithmetic provide the basis for the understanding of complex digital logic circuits. Logic gates and combinational logic.

ITC 304L Laboratory Instruction
Application of the technical knowledge acquired in the classroom to practical power supplies, transistor amplifiers and switches, operational amplifiers, digital and wireless RF circuits. The concepts of teamwork, analytical problem solving and troubleshooting are reinforced.

ITC 401 Communications & Wireless Electronics II
A continuation of Communications & Wireless Electronics. FM transmitters and receivers, transceivers, RF transmission, propagation, waveguides, transmission lines and antenna systems are covered. RF system installation, maintenance and troubleshooting are presented to prepare the student for job entry into the cellular telephone, microwave communications, wireless networking and associated fields. The students prepare and test for the FCC Radiotelephone License certification.

ITC 402 Digital Electronics II
A continuation of Digital Electronics. Analysis, design and operation of digital circuits and microprocessors.

ITC 404L Laboratory Instruction
Application of the technical knowledge acquired in the classroom to digital and microprocessor circuits, practical FM radio circuits. Spectrum analyzers and power/SWR measurements. Radio receiver alignment, testing and troubleshooting.

ITC 501 Cisco Networking I
(Networking for Home and Small Businesses v4.0) This Cisco Networking Academy course teaches students the skills needed to obtain entry-level home network installer jobs. It also helps students develop some of the skills needed to become network technicians, computer technicians, cable installers, and help desk technicians. It provides a hands-on introduction to networking and the Internet using tools and hardware commonly found in home and small business environments.

ITC 501L Cisco Laboratory Instruction I
Application of the technical knowledge acquired in ITC 501 Cisco Networking I.

ITC 502 Cisco Networking II
(Working at a Small-to-Medium Business or ISP v4.1) This Cisco Networking Academy course prepares students for jobs as network technicians and helps them develop additional skills required for computer technicians and help desk technicians.

It provides a basic overview of routing and remote access, addressing, and security. It also familiarizes students with servers that provide e-mail services, web space, and authenticated access. Students learn about the soft skills required for help desk and customer service positions. Helps them prepare for the CCENT certification exam. Network monitoring and basic troubleshooting skills are taught in context.

ITC 502L Cisco Laboratory Instruction II
Application of the technical knowledge acquired in ITC 502 Cisco Networking II.

ITC 601 Cisco Networking III
(Introducing Routing and Switching in the Enterprise v4.0) This Cisco Networking Academy course familiarizes students with the equipment applications and protocols installed in enterprise networks, with a focus on switched networks, IP telephony requirements, and security. It also introduces advanced routing protocols such as Enhanced Interior Gateway Routing Protocol (EIGRP) and Open Shortest Path First (OSPF) Protocol. Hands-on exercises, including configuration, installation, and troubleshooting, reinforce student learning.

ITC 601L Cisco Laboratory Instruction III
Application of the technical knowledge acquired in ITC 601 Cisco Networking III.

ITC 602 602 Cisco Networking IV
(Designing and Supporting Computer Networks v4.0) This Cisco Networking Academy course introduces students to network design processes using two examples: a large stadium enterprise network and a medium-sized film company network. Students follow a standard design process to expand and upgrade each network, which includes requirements gathering, proof-of-concept and project management. Lifecycle services, including upgrades, competitive analyses, and system integration, are presented in the context of pre-sale support. In addition to the Packet Tracer and lab exercises found in the previous courses, there are many pen-and-paper and role-playing exercises that students complete while developing their network upgrade proposals.

ITC 602 L Cisco Laboratory Instruction IV
Application of the technical knowledge acquired in ITC 602 Cisco Networking IV.

ITC 701 Basic Telephony & Cabling Standards
Preparation of the student for entry into the telephone industry. Cabling installation, telephone sets and local loop are covered. The history of the industry and industry terms are presented. National Electrical Code and industry cabling and equipment standards are covered. Data cable installer certificate obtained through industry provided certification. (Certification may occur in section 3 or 4)

ITC 702 Voice Communication Systems I
Installation, programming and troubleshooting of business telephone systems including key systems, hybrids and an introduction to PBX switching equipment in a simulated business environment is accomplished. Transmission lines and long distance networks, which tie telephone switches together, are covered. Customer service concepts are presented, to enable the student to communicate effectively with the customer.

ITC 703 Employment Search: Resumes & Interview Skills
Designed to prepare the student to mount an effective job search. Resume preparation, interview skills and the job application process are covered as the portfolio preparation process is completed.

ITC 705L Laboratory Instruction
Application of the technical knowledge acquired in the classroom to industry standard telephone systems and related equipment. Hands-on experience with industry standard tools and practices is accomplished in the installation of copper and fiber optic cable systems for voice and data networks. Numerous system installation labs and off-campus field projects enable the student to apply knowledge gained in the classroom to actual field installations. Proper installation practices are covered in accordance with The National Electrical Code and industry standards.

ITC 800 Externship
The student has the option of obtaining practical experience in a workplace environment in lieu of the last quarter of training on campus. Externships must relate to the training that would occur in the last quarter of ITCS and must be approved by the Department Head.

ITC 802 Voice Communication Systems II
A continuation of Quarter 7 Voice Communication Systems. The convergence of voice and data, through the development of Computer-telephone Integration (CTI) and Voice over Internet (VoIP) concepts. Installation, programming and troubleshooting of PBX and VoIP equipment in a simulated business environment is accomplished. Voice mail is integrated into the system and the programming of system features is accomplished. Customer service concepts are presented, to enable the student to communicate effectively with the customer.

ITC 804 Limited Energy Systems: Alarms & Amplified Sound
Fire alarm system installation, programming and troubleshooting is covered. Proper installation practices are covered in accordance with The National Electrical Code and NFPA 72: National Fire Alarm Code. Amplified sound and speaker systems, including 70V distribution systems and intercom systems are covered.

ITC 805L Laboratory Instruction
Application of the technical knowledge acquired in the classroom to industry standard telephone systems and related equipment. Hands-on experience with industry standard tools and practices is accomplished in the installation of copper and fiber optic cable systems for voice and data networks. Numerous system installation labs and off-campus field projects enable the student to apply knowledge gained in the classroom to actual telephone equipment and data network cable installations. Installation of fire alarms in a lab environment. Proper installation practices are covered in accordance with The National Electrical Code and industry standards.

Information Technology & Communication Systems Equipment List

Students have the opportunity to train on the following manufacturer's equipment:

Electronics Test Equipment:
Digital multi-meter
Elenco oscilloscopes, signal generators and power supplies
Hitachi oscilloscopes
Heathkit power supplies, signal generators and curve tracer

Wireless Test Equipment:
Tektronix 492 spectrum analyzer
Elenco AM signal generators/modulators
Elenco AM signal generators/modulators
Hewlett Packard FM signal generators/modulators
Hewlett Packard 8921A cell site test sets
Wiltron site master S331A SWR/RL and fault location testers
BIRD watt meters
Fluke Etherscope

Telephone and PA Systems:
Panasonic
Toshiba
Comdial
Lucent/Avaya
Nortel Meridian opt 11 PBX
Nortel Norstar
ESI
Mitel PBX
Mitel VoIP
Duvoice voice mail
Valcom paging
Bogen 70V PA system

Personal Computers and Servers:
Various manufacturers, including Dell, Gateway, IBM and clones.
Operating systems include DOS, Win 9X, Win 2000, Win XP, Vista, Windows 2003 Server, Mac OS, Linux

Transmission and Network Equipment:
Cisco routers and switches
T1 CSU/DSU
Hewlett Packard switches
Fluke network analyzer
Fluke cable certifier
Fluke cable tester

Alarm Systems:
Silent Knight 5700 Fire Alarm Control Communicator
System sensors, pull stations and signal devices

Book and Tool List

The book and tool list for students in the Information Technology & Communication Systems program is intended to be a minimum requirement to complete the program. **The total cost of books, tools, laptop and software is approximately $3,900.**

Book List

The book cost for the ITCS program is approximately $1,400. Books are purchased as you enter each of the four sections of the course. Changes may be made as more appropriate material is developed or new editions are published. Book prices may vary. The price stated does not include any mark-up for program students or sales taxes.

Basic Mathematics for Electronics, Cooke and Adams
Electronics Fundamentals, Floyd
Solder Project Kit
The A+ Guide to Managing and Maintaining Your PC, Comprehensive, Andrews
Wireless Communication Technology, Blake
FCC Test Answers, Weagant
Digital Fundamentals, Floyd
AM/FM Radio Kit Assembly and Instruction Manual, Elenco
Cisco Laboratory Instruction Manuals 1, 2, 3, 4
CCNA Portable Command Guide (Second Edition)
Guide to Telecommunications Technology, Dean
Telecommunications Wiring, Herrick & McKim
Cable and Connector Lab Kit

Basic Tool list

You will need approximately $2,500 for laptop, software and tool purchases your first week of training. Tool prices may vary. The estimated price does not include mark-up for program students or sales tax. The following is the minimum required for the program:

Canvas tool case
Digital multi-meter
Logic probe
Engineering programmable calculator (HP33S)
Proto solderless breadboard and wire jumper kit
Pomona lead set
Safety glasses
25 watt soldering iron, (two flat tips, small and medium) with soldering iron stand
De-soldering tool (vacuum type)
Flux brush
2 standard screwdrivers (4 ½" x 1/8" dia., 6" x 3/16")
2 Philips screwdrivers (5 ½" #1 size, 7 5/8" #2 size)
Jeweler's screwdrivers
Electrician's scissors
Antistatic wrist strap
Small side cutters
Large side cutters
Small Needle nose pliers
6" adjustable wrench
Pliers
Connector tool RJ 11/45
Cable prep tool (Data Cable)
Electrical tape
Punch down tool (66 and 110 bits)
Telephone test set (TS22 recommended)
Inductive amp
Tone tracer
Modular adapter (cable test)
Spudger
110 block test adapter
T-25M staple gun
Staples T25M (pkg/1000)
Nylon tie wraps 7" (pkg/200)

Laptop Computer and Software:

Purchase of a personal laptop computer and academic versions of software are required. Software is available at reduced prices while you are enrolled as a student. Students may purchase their computer through the vendor of their choice, including Dell.com, Toshiba.com, Sony.com and Hp.com. Staples, Office Max, Best Buy, and Office Depot are all authorized PC dealers.

Hardware Minimum Requirements:

1 GHz processor
60 GB HD
512 MB RAM (1GB recommended for Vista)
DVD drive
USB 2.0
WiFi 802.11b/g
USB Flashdrive
USB-serial adapter

Software Requirements:

Microsoft Windows XP Operating System (Vista recommended)
Antivirus program (regularly updated)
Microsoft Office 2007 Standard/Student Edition
Microsoft Visio Pro 2007

Instrumentation & Industrial Automation Technology

The Instrumentation & Industrial Automation Technology Program focuses on a curriculum designed to introduce students to today's world of computerized industrial automated manufacturing. The 24-month training encompasses a basic understanding of mathematics for electronics, electricity, solid state, digital devices, applied physics and calculus. Programmable logic controllers, transmitters, transducers, recorders and controllers will be used to simulate control techniques. Temperature, level, flow and pressure are just a few of the process controls that instrumentation technicians monitor, install, troubleshoot, repair and calibrate.

Safety is an integral part of instruction throughout the program. Regularly scheduled safety meetings are held to ensure that proper safety practices are being followed. Proper clothing including solid shoes, no sandals, long pants and full shirts with a minimum of cap sleeves must be worn. Safety glasses must be worn in lab. Unsafe practices will result in points being deducted from lab assignments and/or other disciplinary actions.

Students are encouraged to join The International Society of Automation (ISA). The student chapter participates in chapter meetings and activities. Tours are scheduled with a variety of industries to expose students to instrumentation technicians in the work environment. The tours are required of all students enrolled in the Instrumentation & Industrial Automation Technology Program. Clock hours shown in the program outline are approximations and may be adjusted by the instructor to accommodate classroom needs. These hours may take place either in a classroom setting or as instruction in the lab area.

The goal of the Instrumentation & Industrial Automation Technology Program is to provide the resources and instruction necessary to allow students opportunities for entry-level employment as instrumentation technicians. Employment opportunities exist in almost all types of industrial product manufacturing. If a student wishes to seek an externship with an employer, they would be allowed the opportunity to do so during the last 20 school days of training.

The Instrumentation & Industrial Automation Technology Program is 24 months in length (six trimesters). The student will earn 133.5 credit hours or 132.0 credit hours (externship option) which are 2,688 clock hours. Tuition is payable on a trimester basis. There are three trimesters in an academic year.

Program Outline

			Clock Hours	Credit Hours
Trimester 1	IN 101	Math for Electronics	137	9.0
	IN 102	Electrical Fundamentals	112	7.5
	IN 103	Solid State Devices	32	2.0
	IN 104L	Lab & Shop Projects	167	5.5
			448	24.0
Trimester 2	IN 201	Electrical Fundamentals	90	6.0
	IN 202	Solid State Devices	40	2.5
	IN 203	Operational Amplifiers	84	5.5
	IN 204	Physics I	46	3.0
	IN 205L	Lab & Shop Projects	188	6.0
			448	23.0
Trimester 3	IN 301	Instrument Maintenance & Calibration	64	4.0
	IN 302	Physics II	114	7.5
	IN 303	Calculus I	57	3.5
	IN 304L	Lab & Shop Projects	213	7.0
			448	22.0
Trimester 4	IN 401	Instrumentation & Process Control	90	6.0
	IN 402	Motor Control	25	1.5
	IN 403	Calculus II	58	3.5
	IN 404L	Lab & Shop Projects	275	9.0
			448	20.0
Trimester 5	IN 501	Instrumentation & Process Control	30	2.0
	IN 502	Digital Fundamentals	87	5.5
	IN 503	Programmable Logic Controllers	90	6.0
	IN 504	Networking Fundamentals	35	2.0
	IN 505L	Lab & Shop Projects	206	6.5
			448	22.0

			Clock Hours	Credit Hours
Trimester 6	IN 601	Analytical Instrumentation	64	4.0
	IN 601L	Lab & Shop Projects	68	2.0
	IN 602	Industrial Computing	124	8.0
	IN 603	Employment Preparation	72	4.5
	IN 604E	Externship	120	2.5
			448	21.0
	OR			
	IN 604L	Lab & Shop Projects	120	4.0
			448	22.5
		Program Totals without Externship Option	2688	133.5
		Program Totals with Externship Option	2688	132.0

Instrumentation & Industrial Automation Technology Course Descriptions

IN 101 Math for Electronics
Numbers, addition, subtraction, multiplication and division of polynomials, equations, powers of ten, units and dimensions, special products and factoring, algebraic fractions, fractional equations, graphs, simultaneous equations, exponents and radicals, quadratic equations, angles, trigonometric functions, trigonometric tables, solution of right triangles, and trigonometric identities and equations.

IN 102 Electrical Fundamentals
Electric circuits, starting with the nature of electricity, Ohm's Law and electrical calculations, conductors, insulators, resistors, series resistive circuits, parallel resistive circuits, series-parallel resistive circuits, voltage cells, batteries and capacitance.

IN 103 Solid State Devices
Basic definitions, semiconductor diodes, rectifier diode circuits, basic DC power supply and transformer usage.

IN 104L Lab & Shop Projects
School rules, conduct and dress code, including proper clothing requirements and the use of safety glasses, general safety practices concerning the usage and proper maintenance procedures for electrical and general shop equipment. First aid and CPR training for two-year certification; tool and book purchases; explanation of ISA; overview of basic personal computer operation including the Windows environment focusing on desktop and Explorer; and use of networks by locating computers, printers and files that are networked. MS Word will be incorporated into technical report writing skills, use of word processor for lab assignments, applying classroom theory to practical lab assignments. Safety is stressed at all times.

IN 201 Electrical Fundamentals
Network analysis techniques, network theorems, magnetism, magnetic circuits, inductance, capacitance, series and parallel AC circuits, and power in AC circuits.

IN 202 Solid State Devices
Semiconductor diodes, DC power supplies – single-phase, transistor as DC switch, transistor as an AC amplifier, silicon-controlled rectifiers, triac, diac and unijunction transistor and solid state transducers.

IN 203 Operational Amplifiers
Introduction to OP Amps, first experiences with an Op Amp, inverting and non-inverting amplifiers, comparators and controls, differential, instrumentation and bridge amplifiers and integrated circuit timers.

IN 204 Physics I
Technical mathematics and friction, equilibrium, torque and rotational equilibrium and uniformly accelerated motion are covered in this section of physics.

IN 205L Lab & Shop Projects
Applying classroom theory to practical lab assignments and simulators, using Microsoft Word and AutoCad. Safety is stressed at all times.

IN 301 Instrument Maintenance & Calibration
Loop concepts, calibration methods, analog transmitters, transducers, controllers, process variables and ISA books are included.

IN 302 Physics II
Uniformly accelerated motion is covered in this section of physics. Projectile motion; Newton's Second Law; work, energy and power; impulse and momentum; simple machines; elasticity; fluids at rest; fluids in motion; temperature and expansion; quantity of heat; transfer of heat; and thermal properties of matter are covered.

IN 303 Calculus I
Analytic geometry, equations of curves and curve sketching, functions, derivatives, formulas for calculating derivatives.

IN 304L Lab & Shop Projects
Applying classroom theory to practical lab assignments and simulators. Safety is stressed at all times.

IN 401 Instrumentation & Process Control
Process and instrumentation diagramming, loop sheets, electrical diagramming, valves, proportional, integral and derivative controls, tuning controllers, fluid power systems and smart devices.

IN 402 Motor Control
Lockout/tagout, electric symbols, ladder diagramming, contactors, single-phase, three-phase and DC motors, variable speed devices.

IN 403 Calculus II
Applications of derivatives, anti-differentiation, trigonometric functions and definite integral calculus.

IN 404L Lab & Shop Projects
Applying classroom theory to practical lab assignments and simulators. Safety is stressed at all times.

IN 501 Instrumentation & Process Control
Advanced control concepts, flame safety and boiler operation.

IN 502 Digital Fundamentals
Introductory digital concepts, number systems, operations and codes, logic gates, Boolean algebra and logic simplification, combinational logic, functions of combinational logic and related devices.

IN 503 Programmable Logic Controllers
Overview of PLCs, PLC hardware components, fundamentals of logic, basics of PLC programming, developing PLC ladder and wiring diagrams and basic PLC functions.

IN 504 Networking Fundamentals
Introduction to networks, network components and real-world networks.

IN 505L Lab & Shop Projects
Applying classroom theory to practical lab assignments and simulators. Safety is stressed at all times.

IN 601 Analytical Instrumentation
Applications and implementation of process analyzer systems. Chemistry as it pertains to process analyzers. Theory and operation of electrochemical and compositional process analyzers.

IN 601L Lab & Shop Projects
Applying classroom theory to practical lab assignments and simulators. Safety is stressed at all times.

IN 602 Industrial Computing
Configurations of distributive process control, hardware implementations and plant loop communications all utilizing control simulators. Hardware and software configurations and implementation utilizing software packaged for personal computers that provides interfaces between operator and controller. HMI software configurations on PLC-controlled simulators.

IN 603 Employment Preparation
Personal resume development to be used in job search. Development of a list of potential employers for setting interview schedules. Interviewing techniques and feedback from practice interviews.

IN 604E Externship
Students who have had a job offer as an instrumentation technician may leave the program and work in the field under a training extern agreement with Perry Technical Institute, the employer and the student.

IN 604L Lab & Shop Projects
Applying classroom theory to practical lab assignments and simulators. Safety is stressed at all times.

Instrumentation & Industrial Automation Technology Book and Tool List

The book and tool list for students in the Instrumentation & Industrial Automation Technology Program is intended to be a minimum requirement to complete the program.

Tool and book costs will be approximately $3,500. Please be prepared to pay this amount within your first week of training. Your instructor will give details regarding the purchase of your tools and books on the first day of school.

Book List

The book cost for the Instrumentation & Industrial Automation Technology Program is approximately $1,100. Books are purchased as you enter each section of the course. Changes may be made as more appropriate material is developed. Book prices may vary. The prices stated do not include mark-up for program students or any sales taxes.

Basic Mathematics for Electronics, Cooke and Adams
Electronics Fundamentals, Circuits, Devices and Applications, Floyd
Solid State Fundamentals, Rockis
Digital Logical Fundamentals, Floyd
Operational Amplifiers and Linear Integrated Circuits, Driscol/Coughlin
TTL Data Book, 2nd Edition, Texas Instruments
Programmable Logic Controllers, Frank D. Petruzella, Second Edition
Applied Physics, Tippens
Industrial Measurement Books, ISA
Calculus for Instrumentation, School Copy
Instrumentation III Reference Manual, School Copy
Networking, a Beginner's Guide, Hallberg
I4 Reference Manual, School Copy

I6 Reference Manual, School Copy
Electrical Motor Control, Rockis/Mazur

Tool List

Tool prices may vary. The prices stated do not include any mark-up for program students or any sales taxes. The following tools are the minimum required for this program.

Safety glasses with clear lenses
Pencil-type soldering iron (maximum of 25 watts)
Soldering iron holder
Desoldering tool
Slotted screwdriver 3” long x 1/8” diameter shaft, 1/8” wide tip
Slotted screwdriver 4” long x 3/16” diameter shaft, 3/16” wide tip
Slotted screwdriver 6” long x 1/4” diameter shaft, 1/4” wide tip
#0 Phillips tip screwdriver 3” shaft length
#1 Phillips tip screwdriver 3” shaft length
#2 Phillips tip screwdriver 4” shaft length
Set jeweler’s screwdrivers or miniature electronics screwdrivers
Nut driver set, (3/32” 1/8”, 5/32”, 3/16”, 7/32” 1/4”, 9/32” 5/16”, 11/32”, 3/8”)”
Diagonal cutting pliers 4”
Long nose pliers 4”
Set combination end wrenches 1/4” – 3/4”
Set miniature combination end wrenches (1/8”, 5/32”, 3/16”, 7/32” 1/4”, 9/32” 5/16”, 11/32”, 3/8”) (ignition wrenches)
Wire stripper (#20-#30 AWG)
Crimper/stripper tool (#10-#22 AWG)
Pocket flashlight
16 pin test clips
Ball hex set 1/16” – 3/8”
Ball hex set 1.5mm – 10mm
Adjustable wrench 6”
Adjustable wrench 10”
Adjustable joint plier 9”
6” dial or digital caliper (metal)
Two padlocks – #3 Masterlock 1”-1&1/2” key lock (no combos)
Tape measure 25’
WSU-30M or equivalent hand wire wrap/unwrap tool
Digital multimeter (Fluke Model 87)
Pomona lead set
Electronic calculator (Hewlett-Packard HP–33S)
Anti-static wrist strap, 6-foot
Perry-Cal Kit
Tool tote bag, soft-side canvas or nylon, 16” maximum length

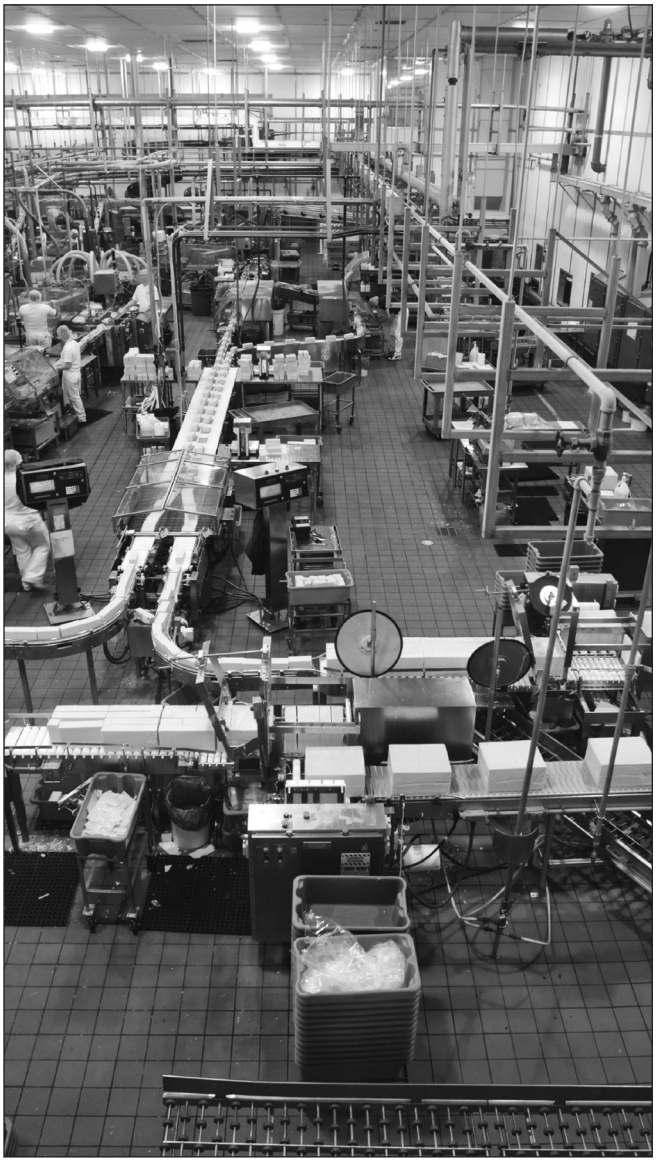
Purchase of a personal laptop computer and academic versions of software are required,
Software is available at reduced prices while you are enrolled as a student. Students may purchase their computer through a vendor of their choice.

Laptop Computer and Accessories
Approximate cost is $850.

<u>Recommended minimum for PC:</u>

Pentium IV, Pentium M Processor, or Equivalent
Windows 2000, XP, VISTA, or Latest Microsoft Operating System
2 GB Ram
60 GB Hard Drive
USB Port
CD Burner
Carrying Case
Mouse
USB Flash Drive, 2 GB (or more)

Software Required
Approximate cost is $320.
Microsoft Office (Student Edition Available)
Autocad LT (Student Edition Available)



Machine Technology

The goal of the Machine Technology Program is to prepare students for entry-level positions in a variety of manufacturing fields. Students learn the machine trade through the integration of machining theory and practical application in the machine shop. They use the skills they learn to plan and carry out the operations needed to make machined products that meet precise specifications.

The working properties of metals, applied mathematics, blueprint reading, computer numerical control (CNC) programming and computer-aided manufacturing (CAM) using Mastercam are some of the subjects the students study to develop the skills demanded by today's industry.

Students have a chance to demonstrate skills and competencies while gaining valuable work experience by electing an externship option pending instructor approval. Students who maintain a 3.0 GPA will be eligible for externships in the seventh quarter of training.

There are numerous employment opportunities throughout the Northwest for students who successfully complete the Machine Technology Program. Graduates will be qualified for entry-level positions in fields such as aerospace, tool and die making, mold making and other specialty machining industries.

The Machine Technology Program is 24 months in length. The student will earn 179 credit hours or 171 credit hours (externship option) which are 2,688 clock hours. Tuition is payable on a quarterly basis. There are four quarters in an academic year.

Program Outline

			Clock Hours	Credit Hours
Quarter 1	MA 101	Shop Safety	15	1.5
	MA 102	First Aid	6	0.5
	MA 103	Mathematics for Machine Technology I	50	5.0
	MA 104	Elementary Blueprint Reading I	35	3.5
	MA 105	Machine Tool Practices I	40	4.0
	MA 106L	Machine Lab	190	9.5
			336	24.0
Quarter 2	MA 201	Mathematics for Machine Technology II	50	5.0
	MA 202	Elementary Blueprint Reading II	36	3.5
	MA 203	Machine Tool Practices II	40	4.0
	MA 204L	Machine Lab	210	10.5
			336	23.0
Quarter 3	MA 301	Mathematics for Machine Technology III	50	5.0
	MA 302	Intermediate Blueprint Reading I	36	3.5
	MA 303	Machine Tool Practices III	40	4.0
	MA 304L	Machine Lab	210	10.5
			336	23.0
Quarter 4	MA 401	Mathematics for Machine Technology IV	50	5.0
	MA 402	Intermediate Blueprint Reading II	36	3.5
	MA 403	Machine Tool Practices IV	40	4.0
	MA 404L	Machine Lab	210	10.5
			336	23.0
Quarter 5	MA 501	Geometric Dimensioning & Tolerancing I	26	2.5
	MA 502	Computer Numerical Control Programming I	30	3.0
	MA 503	Fundamentals of Tool Design I	40	4.0
	MA 504E	Externship	240	12.0
			336	21.5
Quarter 6	MA 601	Geometric Dimensioning & Tolerancing II	26	2.5
	MA 602	Computer Numerical Control Programming II	30	3.0
	MA 603	Fundamentals of Tool Design II	40	4.0
	MA 605L	Machine Lab	240	12.0
			336	21.5

			Clock Hours	Credit Hours
Quarter 7	MA 701	Geometric Dimensioning & Tolerancing III	26	2.5
	MA 702	Computer Numerical Control Programming III	30	3.0
	MA 703	Fundamentals of Tool Design III	40	4.0
	MA 704E	Externship	240	8.0
			336	17.5
	OR			
	MA 705L	Machine Lab	240	12.0
			336	21.5
Quarter 8	MA 801	Geometric Dimensioning & Tolerancing IV	26	2.5
	MA 802	Computer Numerical Control Programming IV	30	3.0
	MA 803	Fundamentals of Tool Design IV	40	4.0
	MA 804E	Externship	240	8.0
			336	17.5
	OR			
	MA 805L	Machine Lab	240	12.0
			336	21.5
		Program Totals without Externship Option	2688	179.0
		Program Totals with Externship Option	2688	171.0

Machine Technology Course Descriptions

MA 101 Shop Safety
Fundamental safety procedures for each group of machine tools in the shop. General shop safety considerations including proper clothing, eye protection and lifting are also covered.

MA 102 First Aid/CPR
This course covers first aid and CPR instruction.

MA 103 Mathematics for Machine Technology
Operations with fractions, mixed numbers and decimals as they relate to the machine trades. The topics covered are the basic math skills of addition, subtraction, multiplication and division. Calculations involving exponents, percentages, percents and rates are also covered.

MA 104 Elementary Blueprint Reading I
Fundamental skills needed to read and interpret industrial drawings. Topics covered include drawing layouts, symbols and the different drawing views used to describe machined parts.

MA 105 Machine Tool Practices I
Use of hand tools including hacksaws, files, taps and dies. Topics also include the use of measuring instruments such as steel rules, vernier scales, micrometers and dial indicators. Precision layout techniques, drilling machine operation, drill bit sharpening and tapping are covered.

MA 106L Machine Lab
Operation of drill presses, band saws, bench grinders and basic hand tools will be applied in the shop. Operations performed will include filing a block square, precision hole layout, drill bit sharpening, drilling and tapping.

MA 201 Mathematics for Machine Technology II
Customary and metric linear measuring systems as well as the fundamentals of algebra found in the machine trades. Topics include using the principles of equality and rearranging of formulas to solve common shop problems.

MA 202 Elementary Blueprint Reading II
Further develops the skills learned in Elementary Blueprint Reading I. Topics covered include the dimensions and symbols used to call out common features such as counterbores, countersinks, fillets and spot faces. Other topics include tapers, chamfers, bevels and screw threads.

MA 203 Machine Tool Practices II
Different types of lathes, their nomenclature and their operation and setup theories. Topics covered include turning, thread cutting, grooving, drilling and tapping. The operation of band saws, cold saws and abrasive saws is also covered.

MA 204L Machine Lab
Operation and set-up of engine lathes will be applied in the shop. Operations include turning, thread cutting, grooving, drilling and tapping. Also covered are the setups of four-jaw chucks, follower rests and steady rests.

MA 301 Mathematics for Machine Technology III
Fundamentals of plane geometry. Shop problems are solved by applying the geometric principles of triangles, common polygons and circles. Other topics covered include geometric construction, area calculations and volume calculations.

MA 302 Intermediate Blueprint Reading I
Advanced blueprinting topics such as orthographic projection, sectioning and special views used in industrial drawing to further define machined parts. Geometric tolerances, their datums and modifiers, along with threaded fasteners, are covered.

MA 303 Machine Tool Practices III
Operation and set-up theories of the vertical milling machine. Topics covered include face milling, rough/finish milling, hole layout, drilling and tapping. Also covered are heat treating of materials, material properties and material application.

MA 304L Machine Lab
Operation and set-up of the vertical milling machine will be applied in the shop. Operations will include face milling, rough/finish milling, hole layout, drilling and tapping. Also covered are general machine set-ups including dialing vises and head tramming.

MA 401 Mathematics for Machine Technology IV
Trigonometric functions and compound angles as they apply in the machine trades. Calculations of angles and sides of right triangles, the Cartesian coordinate system, the laws of sines and cosines, and compound angle calculations are covered.

MA 402 Intermediate Blueprint Reading II
As a continuation of Intermediate Blueprint Reading I, this course further develops advanced blueprint reading skills. The topics of pipe threads, dovetails and steel identification are covered along with structural steel shapes and welding. The special considerations of blueprints for castings, worm gears and mechanical fasteners are also covered.

MA 403 Machine Tool Practices IV
Operation and set-up theories of horizontal milling machines and surface grinders. Milling topics covered include face milling, rough and finish milling. Surface grinding topics include selection of grinding wheels, coolant and work-holding options. The basic theories of arc, MIG and TIG welding will also be covered.

MA 404L Machine Lab
Operation and set-up of the horizontal milling machines and surface grinders will be applied in the shop. Milling operations will include face milling, rough and finish milling. Surface grinder operations will include block squaring and angle grinding. The fundamental operations of arc, MIG and TIG welding will be covered.

MA 501 Geometric Dimensioning & Tolerancing I
Fundamental geometric dimensioning and tolerancing skills needed to interpret industrial drawings. Topics covered are material conditions, form variation and fits. Also covered are datum dimensioning, datum symbols, feature symbols and datum target symbols.

MA 502 CNC Programming I
Manual programming including definitions and application of G&M codes as well as program formats for CNC turning and milling machines. Programming of lathes and milling machines with conversational-based controls is also covered.

MA 503 Fundamentals of Tool Design I
Principles of tooling materials, cutting tool design, work holding principles and jig design. Economic design, break-even charts, mechanical properties of materials and heat-treating are covered. Additional topics include the fundamentals of chip formation, cutting forces, locating principles and clamping.

MA 505L Machine Lab
Classroom theory will be applied to tool and cutter grinding. Topics covered are operations such as end mill, wheel cutter and form tool sharpening. Other topics covered include gear hobbing, indexing operations and machine tool rebuilding.

MA 601 Geometric Dimensioning & Tolerancing II
Further develops geometric dimensioning and tolerancing skills needed to interpret industrial drawings. Topics are conventional tolerance, material conditions, datum precedence, form and profile tolerance and free state variation.

MA 602 CNC Programming II
Computer-aided drafting and modeling. Includes sketching, dimensioning and blueprint formatting as well as extruding two-dimensional sketches into three-dimensional solid models.

MA 603 Fundamentals of Tool Design II
Principles of fixture design. Principles such as tool types, tool positioning and tool mounting will be covered. Additional topics include the fundamentals of power presses such as hydroforming, CNC laser cutting, turret punching and forging. Also covered are metal cutting, forming and drawing, beading and culling, deep drawing and extrusion.

MA 605L Machine Lab
Programming skills and set-up procedures will be used to produce parts with CNC milling and turning centers. Determining part pricing using tooling costs, material costs and time estimation are also covered.

MA 701 Geometric Dimensioning & Tolerancing III
Further develops fundamental geometric dimensioning and tolerancing skills needed to interpret industrial drawings. Topics covered are tolerances of orientation, run-out and location tolerances along with combining of geometric tolerances, tangent plane symbols, coaxial features and spherical features.

MA 702 CNC Programming III
Fundamental 2-D computer-aided machining. Topics include geometry formation such as lines, arcs, points and splines. Also covered are creating drill tool paths, contour tool paths and pocketing tool paths.

MA 703 Fundamentals of Tool Design III
Principles of tool design. Topics covered include inspection and gauging, joining processes and modular automated tool handling. Principles such as wear allowances, coordinate measuring machines, resistance welding and riveting are covered along with tool design through 3-D modeling and simulation.

MA 704E Externship
Practical experience in a workplace environment.

MA 705L Machine Lab
Set-up procedures and machining skills will be used to produce parts with CNC programs written with CAM systems.

MA 801 Geometric Dimensioning & Tolerancing IV
Further develops fundamental geometric dimensioning and tolerancing skills needed to interpret industrial drawings. Topics covered are locating tolerances of fasteners, projected tolerance zones, virtual conditions, concentricity tolerance, positional tolerancing for coaxiality and symmetry.

MA 802 CNC Programming IV
Fundamental three-dimensional CAM. Topics include geometry formation such as surfaces and solids. Also covered are creating surface-driven and solid-driven tool paths.

MA 803 Fundamentals of Tool Design IV
A study of geometric dimensioning and tolerancing as applied to tool design. Topics covered are symbols and definitions, tree-plane concepts, general rules and reference.

MA 804E Externship
Practical experience in a workplace environment.

MA 805L Machine Lab
This course lets each team of students select a final project that utilizes all aspects of their machining skills. There is a strong emphasis put on teamwork and communication.

Machine Technology Book and Tool List

The book and tool list for students in the Machine Technology Program is intended to be a minimum requirement to complete the program. **The total tool and book costs are approximately $3,575.**

First Year Book List

Book cost for the first year of Machine Technology is approximately $500. Changes may be made as more appropriate material is developed or new editions are published. Students should be prepared to purchase their books on the first day of class. Book prices may vary and do not include any mark-up for program students or sales tax.
Mathematics for Machine Technology / Robert D. Smith.

Blueprint Reading for Machinists- Elementary / David L. Taylor.
Blueprint Reading for Machinists- Intermediate / David L. Taylor.
Machine Tool Practices / Kibbe, Meyer, Neely, White.
Machinery's Handbook / Oberg, Jones, Horton, Ryffel.
1" three-ring binder, white
TI-30XA calculator

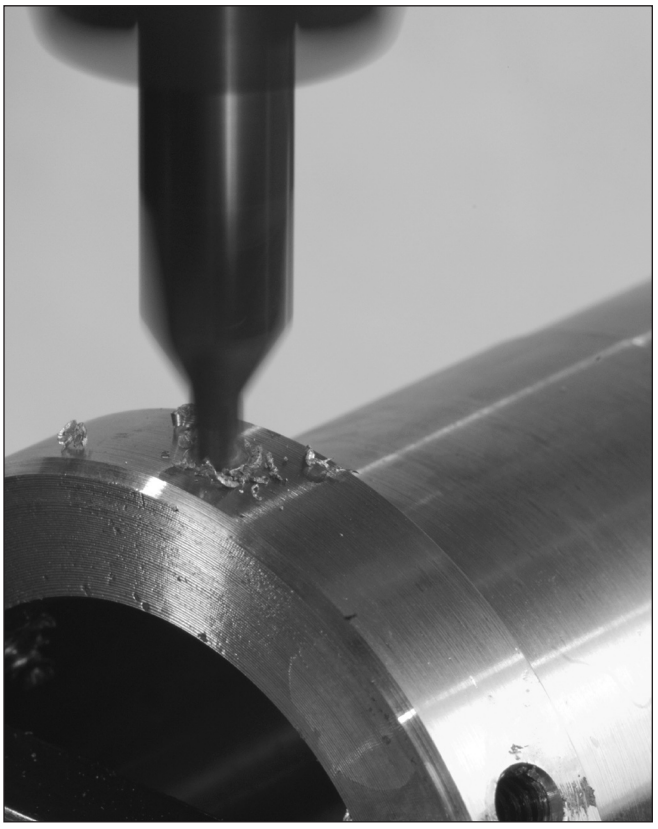
Second Year Book List

Book cost for the second year of Machine Technology is approximately $275. Changes may be made as more appropriate material is developed or new editions are published. Book prices may vary and do not include any mark-up for program students or sales tax.
Geometric Dimensioning and Tolerancing / David A. Madsen.
Computer Numerical Control / Robert Quesada.
Fundamentals of Tool Design / Society of Manufacturing Engineers

Tool List

The estimated cost of tools for the Machine Technology Program is $2,800. Students will meet with venders and purchase/order their tools in the first or second week of class. Tool prices may vary and do not include any mark-up for program students or sales tax.

General hand tools
Toolbox, top (Kennedy 52611 or equivalent)
Toolbox, bottom (Kennedy 297B or equivalent)
Screwdriver, 10-piece set
Wrench, adjustable 8"
Wrench, offset box end 3/4 X 7/8
Wrench, hex 22-piece set
Pliers, three-piece set
Hacksaw, 12"
Hammer, 24 oz dead blow
Hammer, 16 oz ball peen
Punch, prick
Punch, center
File card, with brush
File, 10" mill smooth
File, 8" mill smooth
File, 7" mill smooth
File, needle six-piece set
Handle, file three each
Helmet, welding
Gloves, welding
Apron, shop, blue denim
Honing stone, bench
Tape measure, 1" x 25'
Glasses, safety
Chuck key, #T6
Chuck key, #T5
Chuck key, #T9
Ink, layout
Remover, layout ink
Scriber (General #88 or equivalent)
Protractor (General #17 or equivalent)



Machinist hand tools
Square, combination, four-piece set (Starret, #51548 or equivalent)
Gage, combination drill point (Starret, #50150 or equivalent)
Gage, center (Starret, #51475 or equivalent)
Gage, screw pitch (Starret, #50035 or equivalent)
Base, magnetic (Starret, #52743 or equivalent)
Edge finder (Starret, #53063 or equivalent)
Calipers, firm joint hermaphrodite (Starret, #51143 or equivalent)
Rule, 6” inch/metric (Starret, #51331 or equivalent)
Base, magnetic (Mighty – Mag or equivalent)
Thread measuring wire set
Gage, acme thread
Hone, tool sharpening
Deburing kit
Indicator, 1” travel
Tap, 8-32
Tap, 8-36
Tap, 10-24
Tap, 10-32
Tap, 6-32
Tap, 6-40
Tap, ¼-20
Tap, ¼-28
Tap, 5/16-18
Tap, 5/16-24
Tap, 3/8-16
Tap, 3/8-24
Tap, 7/16-14
Tap, 7/16-20
Tap, ½-13
Tap, ½-20
Tap, 9/16-12
Tap, 9/16-18
Tap, 5/8-11
Tap, 5/8-18
Drill, 115-piece set
Countersink, ¾” 82 deg
Center drill, #3 60 deg
Center drill, #4 60 deg

Precision measuring tools
Micrometer, three-piece set (Mititoyo, #103-922 or equivalent)
Indicator, dial test set (Mititoyo, #513-402T or equivalent)
Caliper, 6” dial (Mititoyo, #505-675 or equivalent)
Gage, telescoping, set (Starret, #52616 or equivalent)

Medical Coding & Reimbursement Specialist (MCRS)

The goal of this program is to prepare graduates for entry-level positions in the growing field of health care office professionals. These are rewarding careers that not only have good advancement potential, but allow graduates to do the kind of work that helps other people. Graduates of this program will be prepared for positions such as: medical office assistant, receptionist, medical coding specialist, medical insurance biller, reimbursement specialist, and support positions in medical offices, hospitals and other health care organizations.

The first quarter will prepare students to take the National Certification for Insurance & Coding Specialists (NCICS) exam. Students will be able to demonstrate a solid understanding of routine business communication and career correspondence. They will develop an understanding of the medical reimbursement processing cycle, health care delivery systems, as well as diagnostic and procedural coding techniques.

During the second quarter, students will learn advanced and specialty skills in medical coding, billing and reimbursement. Students will gain experience with complex coding scenarios and application within different medical specialties. Students will also be able to demonstrate an understanding of heath information departments and record systems. Upon completion of this quarter, students will be prepared to take the Certified Professional Coder (CPC) examination.

Students will learn advanced career planning practices and demonstrate skills and competencies in externship assignments. Students must be making Satisfactory Academic Progress in order to remain eligible for the externship program and must complete and submit regular externship employer evaluations. The instructor may terminate industry work experiences at any time if students do not adhere to the requirements of the externship program or fail to follow school procedures and policies.

The Medical Coding & Reimbursement Program is six months in length. The student will earn 45 credit hours (672 clock hours). Tuition is payable on a quarterly basis. There are two quarters in six months.

Program Outline

			Clock Hours	Credit Hours
Quarter 1	OA 325	Business Communication	25	2.5
	OA 325L	Business Communication Lab	30	1.5
	MCR 105	Medical Reimbursement	36	3.5
	MCR 105L	Medical Reimbursement Lab	30	1.5
	MCR 110	Health Care Delivery Systems	30	3.0
	MCR 110L	Health Care Delivery Systems Lab	30	1.5
	MCR 115	Intermediate Diagnostic Coding	40	4.0
	MCR 115L	Intermediate Diagnostic Coding Lab	40	2.0
	MCR 120	Intermediate Procedure Coding	35	3.5
	MCR 120L	Intermediate Procedure Coding Lab	30	2.0
			336	25.0
Quarter 2	MCR 201	Advanced Coding	30	3.0
	MCR 201L	Advanced Coding Lab	30	1.5
	MCR 205	Specialty Coding	40	4.0
	MCR 205L	Specialty Coding Lab	40	2.0
	MCR 210	Health Care Records	36	3.5
	MCR 210L	Health Care Records Lab	40	2.0
	MCR 215	Medical Coding Practicum Externship	120	4.0
			336	20.0
		Program Totals	672	45.0

Medical Coding & Reimbursement Specialist Course Descriptions

OA 325 Business Communications
Students learn various forms of written business communication including routine business correspondence (e-mail, memo and letters), reports and proposals. Students will also take part in team building activities that incorporate communicating at work; communicating in small groups and teams; workplace listening; non-verbal communication; and communicating across cultures. Career planning is also integrated into this course (resume, cover letter and references).

OA 325L Business Communications Lab
Directed lab with structured learning.

MCR 105 Medical Reimbursement
Students will study federal, state and private health insurance plans including managed care systems. Students will learn the processing cycle of health insurance claims, health insurance terminology, reimbursement methodologies for professional services, and proper completion of the 1500 billing form. An overview of billing systems for hospitals, nursing homes, home health care, hospice, surgical centers and rehabilitation centers including proper submission of UB-92 billing forms will be provided. Emphasis is also placed on the definition of data items and edits to support facility billing practices; the examination of billing system management reports; and legal issues related to reimbursement processing.

MCR 105L Medical Reimbursement Lab
Directed lab with structured learning.

MCR 110 Health Care Delivery Systems
Students will demonstrate an understanding of health care delivery systems. They will analyze the organization of health care delivery in hospitals, mental health and ambulatory care centers, home health agencies and nursing homes. Students will learn about educational preparation and responsibilities of health care professionals as well as government regulations and licensure/regulatory agencies.

MCR 110L Health Care Delivery Systems Lab
Directed lab with structured learning.

MCR 115 Intermediate Diagnostic Coding
This course will serve as a continuation of basic diagnostic coding and the characteristics and conventions of ICD-9-CM and ICD-10-CM coding. Students will analyze and discuss case studies using more complex code assignments with ICD-9-CM and PPS application examples for ICD coding (DRG, RUGS, HHRG, etc.). Students will compare and contrast ICD-9-CM and ICD-10-CM code assignments and conventions. The course will provide an introduction to Systematized Nomenclature of Medicine (SNOMED) and an overview of its role in the health care delivery system as the basis for an electronic health record – outlining its relationship to the administrative code sets currently used for billing and statistical reporting and including definitions for crosswalks and maps used in the clinical coding process.

MCR 115L Intermediate Diagnostic Coding Lab
Directed lab with structured learning.

MCR 120 Intermediate Procedure Coding
This course will serve as a continuation of basic procedural coding and the characteristics and conventions of RBRVS and APCs. Students will analyze and discuss case studies and more complex code assignments using CPT and HCPCS Level II codes. Students will learn procedure coding for inpatients (ICD-9-CM Volume III or ICD-10-PCS comparing and contrasting the two systems at an introductory level).

MCR 120L Intermediate Procedure Coding Lab
Directed lab with structured learning.

MCR 201 Advanced Coding
This course provides students with advanced understanding of complex coding scenarios, with an emphasis on medical coding services such as medical visits, diagnostic testing and interpretation, treatments, surgeries and anesthesia. This course covers more advanced coding concepts using step-by-step methods that give a more in-depth understanding of physician-based medical coding to ensure gathering the correct information from documents, selecting the right codes and determining the correct sequencing of those codes.

MCR 201L Advanced Coding Lab
Directed lab with structured learning.

MCR 205 Specialty Coding
This course provides students with advanced understanding of complex coding scenarios, with an emphasis on coding within different medical specialties. Students will learn the specific coding challenges of each of the following specialties: Obstetrics and Gynecology; Gastroenterology; Podiatry; Dermatology, Ear, Nose and Throat Surgery; Radiology; Inpatient Coding; and Cardiology.

MCR 205L Specialty Coding Lab
Directed lab with structured learning.

MCR 210 Health Care Records
Students will demonstrate an understanding of health information departments and record systems. Students will compare and contrast health care data sets (primary versus secondary records). Students will analyze the content and uses of hospital and physician clinic patient records. Students will learn documentation requirements and the evaluation of documentation completeness and quality. This course will expose students to record storage and retrieval systems (manual and electronic). Special emphasis on privacy, confidentiality, security, HIPAA requirements, release of information and professional ethics will be stressed in this section.

MCR 210L Health Care Records Lab
Directed lab with structured learning.

MCR 215E Medical Coding Practicum Externship
The externship will provide students with coding practices in a hospital, physician's office, clinic or other health care setting with directed projects common to a clinical coding specialist on the job. Students will practice with clinical code assignment and billing methodologies, including projects and cases that replicate typical coding tasks in a physician's office, hospital outpatient clinic, ambulatory surgery and hospital acute care settings that employ coding professionals. This practicum will focus on building speed and accuracy using actual medical records.

Medical Coding & Reimbursement Specialist Book List

The book and tool list for students in the Medical Coding & Reimbursement Specialist Program is intended to be a minimum requirement to complete the program.

Your instructor will give details on the first day of school regarding the purchase of your books and supplies. Book prices may vary. The prices stated do not include mark-up for program students or any sales taxes.

The book cost for the Medical Coding & Reimbursement Specialist Program is approximately $1,191. Changes may be made as more appropriate material is developed or new editions are published. The book list will be provided along with your course syllabi on your first day of school.

Optional Book:

HOW 11: A Handbook for Office Professionals, Clark & Clark, 2007.

Visual Communication & Graphic Technology

The Visual Communication & Graphic Technology Program curriculum develops the skills needed by individuals desiring employment and/or self-employment as computer graphics professionals. The visual communication and graphics field offers PTI graduates diverse employment opportunities in photography, digital imaging, illustration, desktop publishing, pre-press and imposition, sign design and application, website development and more.

The program covers a wide variety of assignments similar to those that graduates will be required to produce in the workplace. Industry standards are stressed and creative abilities are challenged through hands-on applications.

The PTI Visual Communication & Graphic Technology Department is a member of the Yakima Advertising Federation (an affiliate of the American Advertising Federation) and the International Sign Association. These memberships offer students opportunities to network with industry professionals, participate in award competitions and other activities.

Students have the opportunity to earn one or more internationally-recognized certifications, including the W3Schools HTML Developer Certificate, and Adobe Certified Associate Certificates in Photoshop, Flash and Dreamweaver. The goal for those who successfully complete the Visual Communication & Graphic Technology Program is entry-level employment in their chosen occupation within the graphics field and success as a visual communications professional.

The Visual Communication & Graphic Technology Program is 18 months in length. The student will earn 126 credit hours or 114.0 (externship option), which are 2,016 clock hours. Students may do an externship dependent on satisfactory completion of the first three quarters of the program. Externships are dependent on a satisfactory host site that will provide the job skills training to enhance skills and concepts taught in the Visual Communication & Graphic Technology Program. Students participating in an externship may earn up to 20.5 credit hours, which are 650 clock hours. Tuition is payable on a quarterly basis. There are four quarters in an academic year.

Program Outline

			Clock Hours	Credit Hours
Quarter 1	VCG 105	Illustration I	20	2.0
	VCG 105L	Illustration I Lab	40	2.0
	VCG 110	Fundamental Design	30	3.0
	VCG 110L	Fundamental Design Lab	78	3.5
	VCG 115	Typography & Composition	10	1.0
	VCG 115L	Typography & Composition Lab	40	2.0
	VCG 120	Visual Design I	40	4.0
	VCG 120L	Visual Design I Lab	78	3.5
			336	21.0
Quarter 2	VCG 205	Digital Design I	40	4.0
	VCG 205L	Digital Design I Lab	78	3.5
	VCG 210	Employment Preparation I	10	1.0
	VCG 210L	Employment Preparation Lab I	40	2.0
	VCG 215	Illustration II	20	2.0
	VCG 215L	Illustration II Lab	40	2.0
	VCG 220	Sign Design I	30	3.0
	VCG 220L	Sign Design I Lab	78	3.5
			336	21.0
Quarter 3	VCG 305	Photography I	20	2.0
	VCG 305L	Photography I Lab	40	2.0
	VCG 310	Visual Design II	30	3.0
	VCG 310L	Visual Design II Lab	78	3.5
	VCG 315	Creative Advertising I	20	2.0
	VCG 315L	Creative Advertising I Lab	60	3.0
	VCG 320	Website Design & Development II	30	3.0
	VCG 320L	Website Design & Development II Lab	58	2.5
			336	21.0

			Clock Hours	Credit Hours
Quarter 4	VCG 400E	Externship	236	7.5
	or the following labs: GA 405L, GA 410L, GA 415L, GA 420L			
	VCG 405	Illustration III	20	2.0
	VCG 405L	Illustration III Lab	40	2.0
	VCG 410	Sign Design II	30	3.0
	VCG 410L	Sign Design II Lab	78	3.9
	VCG 415	Photography II	20	2.0
	VCG 415L	Photography II Lab	40	2.0
	VCG 420	Visual Design III	30	3.0
	VCG 420L	Visual Design III Lab	78	3.5
		Without Externship	336	21.0
		With Externship	336	18.5
Quarter 5	VCG 500E	Externship	236	7.5
	or the following labs GA 505L, GA 510L, GA 515L, GA 520L			
	VCG 505	Digital Design III	30	3.0
	VCG 505L	Digital Design III Lab	58	2.9
	VCG 510	Creative Advertising II	20	2.0
	VCG 510L	Creative Advertising II Lab	60	3.0
	VCG 515	Illustration IV	20	2.0
	VCG 515L	Illustration IV Lab	40	2.0
	VCG 520	Sign Design III	30	3.0
	VCG 520L	Sign Design III Lab	78	3.5
		Without Externship	336	21.0
		With Externship	336	18.5
Quarter 6	VCG 600E	Externship	178	5.5
	or the following labs GA 605L, GA 610L, GA 615L, GA 620L			
	VCG 605	Photography III	20	2.0
	VCG 605L	Photography III Lab	40	2.0
	VCG 610	Applied Design	30	3.0
	VCG 610L	Applied Design Lab	78	3.5
	VCG 615	Employment Preparation II	20	2.0
	VCG 615L	Employment Preparation Lab II	60	3.0
	VCG 625	Portfolio Development	20	3.0
	VCG 625L	Portfolio Development Lab	58	2.5
		Without Externship	336	21.0
		With Externship	336	14.0
	Program Totals without Externship Option		2016	126.0
	Program Totals with Externship Option		2016	114.0

Visual Communication & Graphic Technology Course Descriptions

VCG 105 Illustration I
Illustration basics introduced and reviewed with hand sketching, edges, spaces, relationships, lights, shadows and gestalt.

VCG 105L Illustration I Lab
Directed lab with structured learning.

VCG 110 Fundamental Design
Introduction to design basics, principles, process, formats and terminology. Study of basic typography significance, history, composition, legibility and layout in combination with images and color in logos and designs.

VCG 110L Fundamental Design Lab
Directed lab with structured learning.

VCG 115 Typography & Composition
Digital typography exploration including font identification and management, and application of basic design principles, respectively.

VCG 115L Typography & Composition Lab
Directed lab with structured learning.

VCG 120 Visual Design I
Introduction to career and communication skills in print production and graphic design.

VCG 120L Visual Design I Lab
Directed lab with structured learning.

VCG 205 Digital Design I
Introduction to web design, communication, project management and related technologies.

VCG 205L Digital Design I Lab
Directed lab with structured learning.

VCG 210 Employment Preparation I
Development of resume, cover letter and references page. Exploration of job shadow and externship opportunities.

VCG 210L Employment Preparation Lab I
Directed lab with structured learning.

VCG 215 Illustration II
Study and application of digital illustration tools, selections, masks, layers using photos and combination of painting and photography.

VCG 215L Illustration II Lab
Directed lab with structured learning.

VCG 220 Sign Design I
Introduction to the sign industry, digital sign design software and visual study of existing signage, logos and creative text.

VCG 220L Sign Design I Lab
Directed lab with structured learning

VCG 305 Photography I
Introduction to photography, the camera and its functions. Basic photographic techniques are applied, including proper exposure, outdoor and ambient lighting, and composition.

VCG 305L Photography I Lab
Directed lab with structured learning.

VCG 310 Visual Design II
Intermediate level development of career and communication skills in print production and graphic design.

VCG 310L Visual Design II Lab
Directed lab with structured learning.

VCG 315 Creative Advertising I
A study of different practical methods for creating innovative and unforgettable advertisements, from finding the elusive “big idea” to reworking classic techniques.

VCG 315L Creative Advertising I Lab
Directed lab with structured learning.

VCG 320 Digital Design II
Intermediate Web design, communication, project management and related technologies.

VCG 320L Digital Design II Lab
Directed lab with structured learning.

VCG 400E Externship
Practical experience in a workplace environment.

VCG 405 Illustration III
Study and application of digital illustration special effects, type effects and combination with Photoshop. Study of traditional illustration in mainstream marketing.

VCG 405L Illustration III Lab
Directed lab with structured learning.

VCG 410 Sign Design II
Introduction to the sign industry history, terminology, materials and equipment. Introduction to pricing and manufacturing of signage. Advanced use of digital sign design software.

VCG 410L Sign Design II Lab
Directed lab with structured learning.

VCG 415 Photography II
Basic studio lighting, advertising photography, outdoor and studio portraits. Guidance and application of architecture and outdoor photography.

VCG 415L Photography II Lab
Directed lab with structured learning.

VCG 420 Visual Design III
Advanced level development of career and communication skills in print production and graphic design.

VCG 420L Visual Design III Lab
Directed lab with structured learning.

VCG 500E Externship
Practical experience in a workplace environment.

VCG 505 Digital Design III
Advanced web design, communication, project management and related technologies.

VCG 505L Digital Design III Lab
Directed lab with structured learning.

VCG 510 Creative Advertising II
Exploration of visualizing concepts; the art of illusion and paradox; using metaphor and analogy; and deploying shock tactics and humor.

VCG 510L Creative Advertising II Lab
Directed lab with structured learning.

VCG 515 Illustration IV
Study and application of advanced digital illustration techniques in mainstream marketing.

VCG 515L Illustration IV Lab
Directed lab with structured learning.

VCG 520 Sign Design III
Application of vinyl signage, large format digital printing, and vehicle graphics using proprietary software and equipment for the commercial sign industry.

VCG 520L Sign Design III Lab
Directed lab with structured learning.

VCG 600E Externship
Practical experience in a workplace environment.

VCG 605 Photography III
Advanced studio techniques. Students pursue independent photo projects.

VCG 605L Photography III Lab
Directed lab with structured learning.

VCG 610 Applied Design
Creation of a variety of print advertising collateral for inclusion in final portfolio.

VCG 610L Applied Design Lab
Directed lab with structured learning.

VCG 615 Employment Preparation II
Exploration of employment search resources, employment application, interview techniques and small business planning.

VCG 615L Employment Preparation II Lab
Directed lab with structured learning.

VCG 625 Portfolio Development
Development of portfolios that students will use for employment search, job interviews and/or self-employment.

VCG 625L Portfolio Development Lab
Directed lab with structured learning.

Visual Communcation & Graphic Technology Book and Tool List

The book and tool list for students in the VCG Program is intended to be a minimum requirement to complete the program.

Tool and book costs are approximately $3,350. Purchase of any equipment or software prior to school beginning is not recommended.

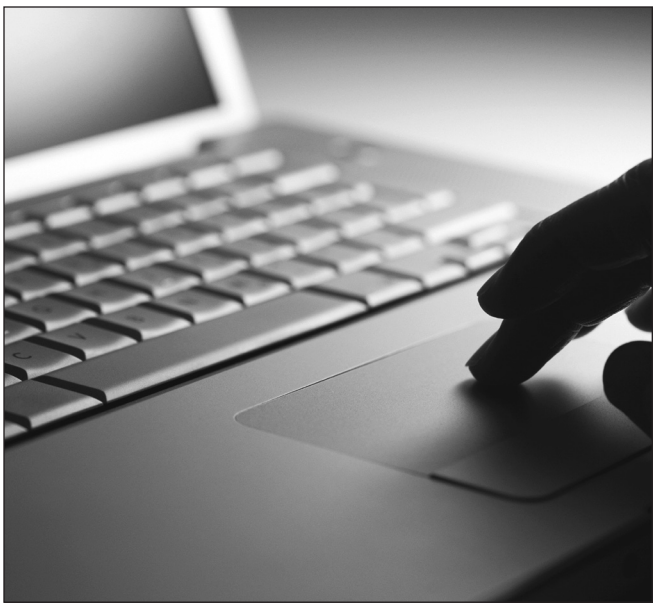
Estimated cost of a laptop, with case and pen tablet, is up to $1,200.

Please be prepared to pay approximately $200 for books and supplies the first day and $825 more for additional supplies, books and tools during the first quarter of class. The remainder will be paid throughout the 18 months of the course. Your instructor will give details regarding the purchase of your books and supplies on the first day of school. Book and tool prices may vary. The prices stated do not include mark-up for program students or any sales taxes.

Book List

The book and periodical cost for Graphics is approximately $485 for the following subjects:

Illustration
Fundamental Design
Typography and Composition
Digital Design
Employment Preparation
Sign Design
Photography
Creative Advertising



Tool List

Art kit and supplies: Approximate cost is $150.

Camera and accessories kit: The following is intended to be used as a minimum guide. Please ask an instructor for specifications before purchasing cameras.
Approximate cost of camera is up to $400
Approximate cost of camera accessories is $150

Digital Camera – 6 megapixel resolution (minimum) with manual focus, manual exposure, 8x optical zoom and hot shoe
2 GB (minimum) memory storage for camera
Camera case, tripod, cleaning kit
Filter Set – UV and polarizing
Flash – optional
Extra battery – optional

Purchase of a personal laptop computer is required before the seventh week. Academic versions of graphics software are available at reduced prices while you are enrolled as a student.

Students may purchase their computer through a vendor of their choice, including: Dell.com Toshiba.com Sony.com Apple.com Hp.com Gateway.com

Staples, Office Max, Best Buy and Office Depot are authorized PC dealers.

Laptop Computer and Accessories

Minimum System Requirements for PC:

1.8 GHz or faster Intel Core 2 Duo or AMD equivalent
Windows XP OS with service pack 3, or Vista OS
2 GB RAM
256 MB 16-bit video
160 GB hard drive or larger
USB 2.0 port
DVD burner
Carrying case
Pen/mouse drawing tablet
2 GB USB flash drive (Mac & PC compatible)

Recommended Minimum System Requirements for Mac:

Intel-based Core 2 Duo processor
Mac OS X 10.4.11 or higher
Windows XP OS with service pack 3, or Vista OS
2 GB RAM
256 MB 16-bit video
120 GB hard drive or larger
USB 2.0 port
DVD burner
Carrying case
Pen/mouse drawing tablet
2 GB USB flash drive (Mac & PC compatible)

Software Required

Software will be purchased after starting class. Students will receive information on which versions to purchase and available vendors. **Approximate cost is $600.**

Windows operating system will be required for Mac users. Approximate cost is $100.

Adobe Creative Suite Design Premium
CorelDRAW
Corel Painter

Miscellaneous Expenses

CD/DVD-R, business cards, business license, Web domain and hosting, batteries, etc. **Approximate cost is $10 a month for the 18-month course.**

Portfolio expenses – **$150 in the fourth quarter.**

Administration

President **Christine Coté**
B.A. – Central Washington University

Dean of Education **Mike Milford**
B.A. – University of Washington
M.B.A. – University of Puget Sound

Instructional Coach **Christopher Wright**
B.A. – Central Washington University
M.A. – Central Washington University
Principal Certificate – Central Washington University

Director of Finance **Tracy Stoffer**
B.S. – Central Washington University
Certified Public Accountant

Foundation Director **Erin Fishburn**
B.S. – Portland State University

Director of Public Relations & Marketing
Leanne LaBissoniere
B.A. – Central Washington University

Financial Aid Director **Carol Helms**
A.A. – Yakima Valley Community College

Registrar **Jill Cope**
B.A. – Minot State University

IT Systems Administrator **Jeanine Benoit**
Certificate – Telecommunications, Perry Technical Institute

Recruitment

Recruiter **Nicole Trammell Woolpert**
B.S. – Central Washington University
Certificate – Graphics, Perry Technical Institute
Washington State Vocational Education Certificate

Recruiter **Raul Luna**
Certificate – Graphics, Perry Technical Institute
Washington State Vocational Education Certificate

Faculty

Automotive Technology

Joe Garcia – Department Head
Certificate – Automotive, Perry Technical Institute
Washington State Vocational Education Certificate
ASE Certified Automotive Instructor

Glenn Maxwell
Instructor
Certificate – Automotive, Perry Technical Institute

Computer Applications & Medical Office Administration
Computer Applications & Office Administration
Medical Coding & Reimbursement Specialist

Nathan Hull – Department Head
B.S. – Central Washington University
B.A. – Eastern Washington University
Washington Residency Certificate (Secondary)
Washington State Vocational Education Certificate
Microsoft Certified Application Specialist

Briana Bizier
Instructor
B.A. – Colby College
M.A. – University of Chicago Divinity School

Lashel Church
Instructor
American Academy of Professional Coders – Certified Professional Coder

Jennifer McMurtrey
Instructor
A.A. – Columbia Basin College
B.S. – University of Phoenix

Electrical Technology

Mike Tucker – Department Head
Certificate – Electrical, Perry Technical Institute
A.A.S. – Yakima Valley Community College
Washington State Vocational Education Certificate
Washington State General Master Electrician 01 Certificate

Jon Bolin
Instructor
Certificate – Electrical, Perry Technical Institute
Washington State General Electrical Journeyman 01 Certificate

Forrest Buchmann
Instructor
Certificate – Electrical, Perry Technical Institute
Washington State Vocational Education Certificate
Washington State General Master Electrician 01 Certificate

Nathan Klebaum
Instructor
Certificate – Electrical, Perry Technical Institute
Washington State General Electrical Journeyman 01 Certificate

Jason Lidke
Instructor
Certificate – Electrical, Perry Technical Institute
Washington State General Electrical Administrator (01) Certificate

Ron Zike
Instructor
Washington State Vocational Education Certificate
Washington State General Master Electrician 01 Certificate

Maria Najera
Lead Field Journeyman Electrician
Certificate – Electrical, Perry Technical Institute
Washington State General Electrical Journeyman 01 Certificate

Phil Quenzer
Field Journeyman Electrician
Certificate – Electrical, Perry Technical Institute
Washington State General Electrical Journeyman 01 Certificate

Todd Thomas
Field Journeyman Electrician
Certificate – Electrical, Perry Technical Institute
Washington State General Electrical Journeyman 01 Certificate
Washington State General Electrical Administrator 01 Certificate

Bill Thompson
Field Journeyman Electrician
Washington State General Master Electrician 01 Certificate

Heating, Ventilation, Air Conditioning & Refrigeration Technology

Marc Mitchell
Department Head
Certificate – HVAC/R, Perry Technical Institute
A.A.S. – Yakima Valley Community College
Washington State Vocational Education Certificate
Washington State 06A Master Electrical Specialty License
EPA 608 Universal Certification

Craig Heckart
Instructor
Certificate – HVAC/R, Perry Technical Institute
Washington State Vocational Education Certificate
Washington State 06A Electrical Specialty License
EPA 608 Universal Certification

Dan Henderson
Instructor
Certificate – HVAC/R, Perry Technical Institute
A.A.S. – Yakima Valley Community College
Washington State Vocational Education Certificate
Washington State 06A Master Electrical Specialty License
Washington State 07 Electrical Specialty License
EPA 608 Universal Certification

Van Henderson
Instructor
Certificate – HVAC/R, Perry Technical Institute
Washington State 06A Electrical Specialty License
EPA Refrigerant Certification Type Universal

Information Technology & Communication Systems

Michael Smith – Department Head
Certificate – Instrumentation & Industrial Electronics, Perry Technical Institute
A.A.S. – Yakima Valley Community College
Washington State Vocational Education Certificate

Andy Fischer, RCDD
Instructor
Certificate – Telecommunications, Perry Technical Institute
Washington State Vocational Education Certificate
A.A.S. – Telecommunications, Yakima Valley Community College
Registered Communications Distribution Designer

Francisco Magana
Instructor
Certificate – Telecommunications, Perry Technical Institute
Certified Internet Web Master

Josh Phillips
Instructor
Certificate – Telecommunications, Perry Technical Institute
Washington State Vocational Education Certificate

Instrumentation & Industrial Automation Technology

Tony Nirk – Department Head
Certificate – Instrumentation, Perry Technical Institute
A.A.S. – Pierce College Fort Steilacoom

Larry Dagdagan
Instructor
Certificate – Instrumentation, Perry Technical Institute
Washington State Vocational Education Certificate

Shon McIntyre
Instructor
Certificate – Telecommunications, Perry Technical Institute
Washington State Vocational Education Certificate

Doug Oswalt
Instructor
Certificate – Instrumentation, Perry Technical Institute
Washington State Vocational Education Certificate

Gerry Ries
Instructor
Certificate – Instrumentation, Perry Technical Institute
Washington State Vocational Education Certificate
ISA Certified Control Systems Technician

Dave Sylvanus
Instructor
Certificates – Instrumentation and Machine, Perry Technical Institute
A.A.S. – Instrumentation and Machine, Yakima Valley Community College
ISA Certified Control System Technician (CCST) Level II
Washington State 07 Nonresidential Maintenance Specialty Electrician
Washington State Vocational Education Certificate

Machine Technology

Dan Steinmetz – Department Head
Department Head
Washington State Vocational Education Certificate

Jay Wellner
Instructor
Certificate – Machine, Perry Technical Institute

Visual Communication & Graphic Technology

Bill Belford - Department Head
A.A. – Yakima Valley Community College
B.A. – Central Washington University
Washington State Vocational Education Certificate
W3 HTML Developer Certificate

Jamaica Jo
Instructor
Certificate – Graphics, Perry Technical Institute
Washington State Vocational Education Certificate

Shawn Hayden
Instructor
Certificate – Graphics, Perry Technical Institute
A.A.S. – Yakima Valley Community College

Phone List

To call the following, please dial (509) 453-0374 and ask for the extension.

Operator 0
Cashier 218

President's Office
President 216
Executive Assistant 214

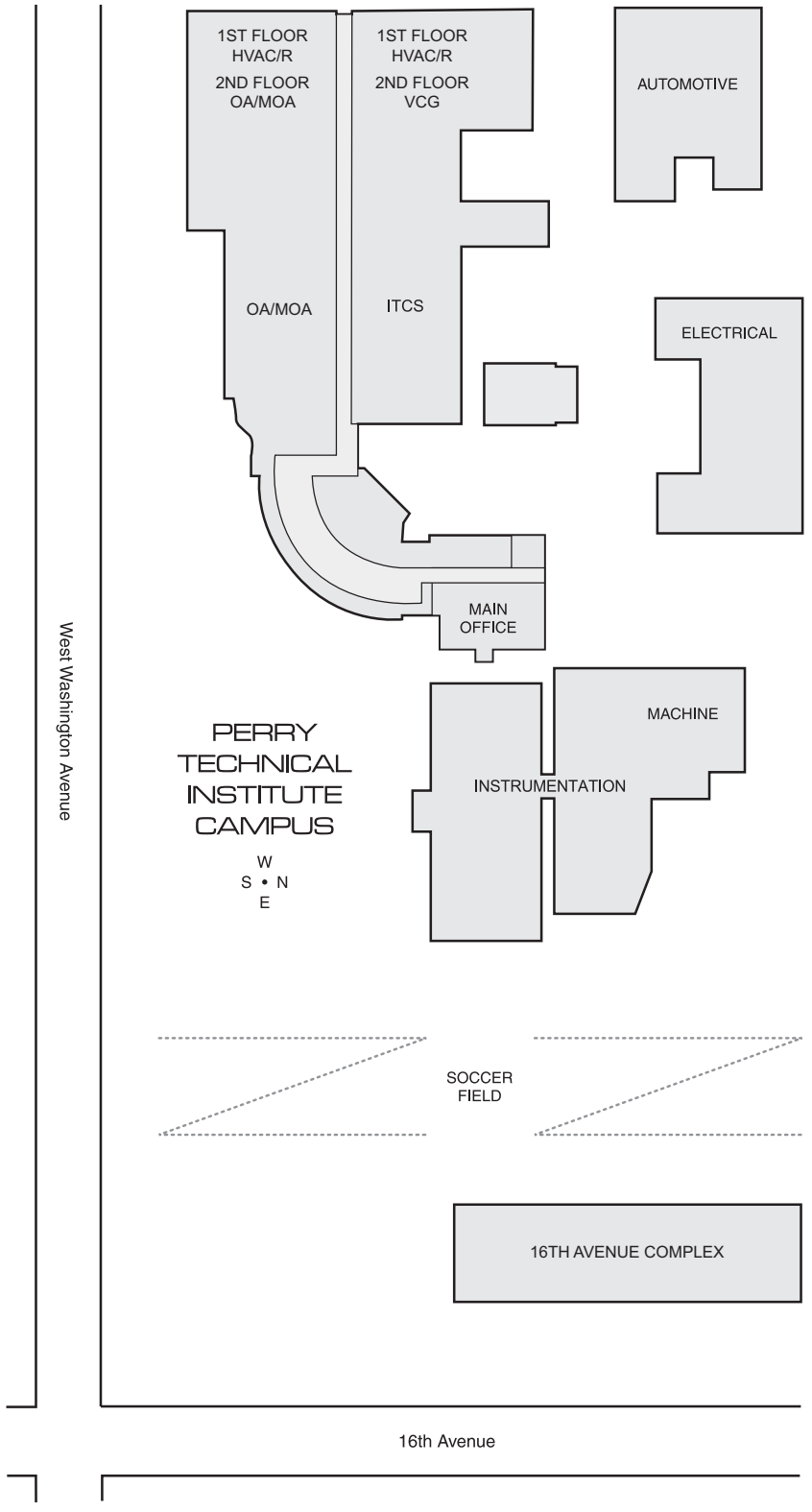
Foundation Office
Foundation Director 206
Foundation/Attendance Rep. 230

Student/Instructional Services
Dean of Education 211
Instructional Coach. 225
Education Coordinator 217
Registrar. 227
Admissions Representative 205
Admissions Representative 267

Student Financial Services
Financial Aid Director 208
Financial Services Assistant 218
Financial Aid Representative 209
Financial Aid Loan Coordinator . . . 212
Student Accounts Representative . 202

Recruiting/Marketing
Recruiting Agent 220
Recruiting Agent 228
Recruitment Coordinator 226
PR & Marketing Director 219

Business Services/Human Resources
Director of Finance 207
Administrative Assistant 215
Payroll and Benefits Coordinator . . 210
Accounts Payable Technician. 213
Purchasing Coordinator 204



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2011 W. Washington Avenue, Yakima, WA 98903-1296 (509) 453-0374, toll free (888) 528-8586, fax (509) 453-0375 www.perrytech.edu

2011 W. Washington Ave.
Yakima, WA 98903
(509) 453-0374 • (888) 528-8586