Catalog
2026 – 2027

WILLIAMSON
COLLEGE of the TRADES
Founded 1888

FAITH • INTEGRITY • DILIGENCE • EXCELLENCE • SERVICE

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The College

Williamson At-a-Glance

Williamson's Mission, Vision, and Values

***Mission*:** Williamson College of the Trades prepares deserving young men to be respected leaders and productive members of society.

***Vision*:** Through scholarships that fully meet each student's financial need, Williamson uniquely develops the entire student, spiritually, socially, and professionally, emphasizing moral, trade, academic, and leadership education in a structured community based on Christian principles.

***Values*:** Faith ◆ Integrity ◆ Diligence ◆ Excellence ◆ Service

Williamson's Credo

Williamson College of the Trades believes that the ideals upon which Isaiah V. Williamson founded the college are as valid and relevant today as when the college was founded in 1888. In its beliefs, Williamson remains committed to these ideals.

Commitment to Our Heritage:

We Believe that young men who have learned a good mechanical trade, and who are intellectually and emotionally prepared, honest, frugal, entrepreneurial, temperate, and industrious, are certain to succeed in life, and to become useful and respected members of society.

We Believe that Christian ethics and values help to prepare graduates to be dependable, honest, and productive workers.

Commitment to Craftsmanship:

We Believe that work should be done to the best of one's ability, out of personal integrity. High expectations of achievement must never be com-promised.

We Believe that work done to the best of one's ability is honorable. Through work well done we are better able to serve one another.

Commitment to Community:

We Believe all those associated with Williamson should be disciplined, honest, fair, confident, frugal, committed to excellence, and professionally skilled.

We Believe our work should manifest a spirit of unity and harmony, and that everyone should be treated with fairness, dignity, and respect.

We Believe that a culturally diverse campus setting enhances the quality of training, education, and campus life.

A Williamson Education

Williamson takes a unique approach to technical education. Over the course of three years at the college, students receive a broad education that includes study of trade and technical theory in the classroom and realistic work projects. Students also receive academic instruction that is designed to contribute to their career success. This well-rounded training is intended to provide graduates with the skills necessary for success in a wide variety of career options, from positions in the trade and technical fields to employment as small business owners.

But training at Williamson goes far beyond the classroom, as students live in a carefully structured environment that includes daily chapel, work details, a dress code, and clearly defined rules and responsibilities. A Williamson education emphasizes the importance of moral values, industry, and quality workmanship. The goal is to instill in students character traits for success in life and on the job, including self-discipline, personal integrity, and reliability.

For more than 130 years, Williamson has been using its unique approach to education to prepare high-quality tradesmen and technicians. In the process, it has gained a national reputation for producing graduates who have become expert craftsmen, successful businessmen, respected citizens, and recognized leaders in their fields.

College Education Goals, Objectives, and Outcomes

General/Technical Education - To fulfill the mission of preparing young men to be productive, the college prioritizes general/technical education, with the goal of providing students with appropriate instruction and training in academic, trade, and technical areas in order to prepare them for employment.

Leadership Education - To fulfill the mission of preparing young men to be leaders, the college prioritizes leadership education, with the goal of developing and enhancing students' leadership potential.

Character Education - To fulfill the mission of preparing young men to be respected, the college prioritizes character education, with the goal of developing that character of its students according to the Christian tradition, as exemplified in the school's core values.

Objectives

General and Technical Education

- To educate students in courses of a general nature so that they will be equipped to succeed professionally and pursue further education, if desired.

- To educate and train students in trade and technical courses that will prepare them for entry-level employment in their respective professions.
- To provide students with the skills essential to being lifelong learners.

Leadership Education

- Drawing on academic and experiential learning opportunities, produce graduates with leadership skills to ethically influence others toward the achievement of a collaborative goal.

Character Education

- To develop a foundation for ethical decision making and behavior, drawing on principles of faith and personal integrity.
- To promote a sense of personal responsibility by fostering the positive habits of industry, as seen in a commitment to a strong work ethic and high standards.
- To promote a sense of responsibility to society by fostering an appreciation for others and a commitment to service.
- Encourage holistic personal growth and identity development throughout the program in alignment with the college's core values, concepts of effective citizenship, and social justice.

Outcomes

General and Technical Education

- Demonstrate technical knowledge and skill in a specific trade.
- Demonstrate the ability to communicate orally and in writing.
- Demonstrate the ability to use scientific and quantitative reasoning.
- Demonstrate the ability to use critical analysis and reasoning.
- Demonstrate technical competence and information literacy.
- Demonstrate awareness of values, ethics, and diverse perspectives.

Leadership Education

- Demonstrate and apply concepts of followership within a team dynamic.
- Demonstrate an increasing skill to effectively work alongside and lead peers towards common goals.
- Demonstrate the ability to listen and respect the viewpoints of others.
- Describe and demonstrate leadership skills and concepts.
- Assess situations and modify leadership approach depending on the objective, the task, and the team.
- Display critical thinking and analytical skills in leading others towards a defined goal.

Character Education

- Exhibit an understanding of the importance of Williamson's core values to their lives.
- Exhibit an increasing sense of diversity awareness.
- Exhibit an understanding of humanity that respects and values the dignity, worth, and distinct qualities of all individuals.
- Demonstrate positive intrapersonal values and behaviors, such as integrity, responsibility, diligence, self-control, and a positive attitude.
- Demonstrate positive interpersonal values and behaviors, such as respect, fairness, consideration, cooperation, stewardship of resources, civic mindedness, and an eagerness to help others.
- Understand the impact of community service towards effective citizenship and social responsibility.

Areas of Study

Associate in Specialized Technology Degrees

- Construction Technology-Carpentry Emphasis
- Construction Technology-Electrical Emphasis
- Construction Technology-Masonry Emphasis
- Landscape Construction and Management
- Machine Tool Technology
- Power Plant Technology

Length of Study – All programs are 3 years in duration

Enrollment – 330 (approximately)

Student/Faculty Ratio – 12:1 (approximately) Average Class Size - 18 students

Student Duties

Students must follow all college regulations, policies, and procedures. College policies and procedures are accessible through the Student Blackbaud portal to include, but not limited to, the *Student Handbook*, IT Policy Handbook, and Title IX Policy Manual.

Housing

All students must live in an on-campus dormitory supervised by an adult dormitory manager.

Physical Plant

Williamson's campus includes Rowan Hall, Restall Sports Center, Carpentry Shop, Electrical Shop, Machine Shop, Masonry Shop, Lee Rowan School of Power Plant Technology, Lipp Educational Center, Dorrance H. Hamilton Horticultural Center, Walter M. Strine Sr. 2W9 Learning Center, Joseph L. and Marion M. Wesley Student Center, William L. McLean Jr. Technical Center, Grounds Buildings, sixteen dormitories, faculty homes, and athletic fields.

Location

The 220-acre campus is located in Delaware County, Pennsylvania, one mile west of Media and fourteen miles west of Philadelphia, near the intersection of US 1 and PA 352.

Accreditation

Williamson is approved and authorized by the Pennsylvania Department of Education to confer the Associate in Specialized Technology Degree.

Williamson College of the Trades is an accredited institution and a member of the Middle States Commission on Higher Education (MSCHE or the Commission - www.msche.org). Williamson College of the Trades' accreditation status is accreditation affirmed. The Commission's most recent action on the institution's accreditation status on June 27, 2024 was to grant the institution accreditation. MSCHE is recognized by the U.S. Secretary of Education to conduct accreditation and pre-accreditation (candidate status) activities for institutions of higher education including distance, correspondence education, and direct assessment programs offered at those institutions. The Commission's geographic area of accrediting activities is throughout the United States. Williamson's MSCHE directory listing may be accessed at this link: www.msche.org/institution/9235/. General inquiries may be sent to: President@msche.org.

Accreditation and approval documents are available upon request. An institution's accreditation does not guarantee that credits earned at that institution will be accepted for transfer by any other institution. Decisions concerning the acceptance of credits by any institution other than the granting institution are made at the sole discretion of the receiving institution. Students considering continuing their education at or transferring to other institutions must not assume that credits earned at this school will be accepted by the receiving institution. Students must contact the registrar of the receiving institution to determine what credits, if any, that institution will accept.

Nondiscrimination

Williamson admits students of any race, color, creed, religion, or ethnic background to educational programs or activities it operates. The college does not discriminate on the basis of sex and prohibits sex discrimination in any educational program or activity that it operates, as required by Title IX and its regulations, including employment.

History of Williamson College of the Trades

Isaiah Vansant Williamson

On December 1, 1888, Isaiah Vansant Williamson, a Philadelphia merchant and philanthropist, founded the Williamson Free School of Mechanical Trades. His purpose in founding the school was to provide financially disadvantaged young men with the opportunity to become productive and respected members of society. In his own words, "It was seeing boys, ragged and barefooted, lounging on the streets, growing up with no education, no idea of usefulness, that caused me to think of founding a school where every boy could be taught some trade free of expense."

I.V. Williamson was born in 1803 in Fallsington, Bucks County, Pennsylvania, to a Quaker family whose ancestors came to America before William Penn. As a boy, Williamson worked as an apprentice in a country store, saving enough money to open his own dry goods store in Philadelphia. For a number of years, he ran the store and several subsequent businesses quite successfully, enabling him to retire in 1838 with a small fortune. Adopting the custom of wealthy young men at that time, he traveled throughout Europe for a couple years.

Upon his return, Williamson began a plan for investing his money and by 1880 had become one of the wealthiest men in Philadelphia. As his wealth grew, he turned to philanthropy, giving away much of his fortune. A self-effacing man, he anonymously gave large sums to favorite charities, hospitals, colleges, and homes for children. The founding of the Williamson Free School of Mechanical Trades with a two-million-dollar endowment was one of his last charitable acts before he died in 1889.

In founding the school, Williamson directed through a deed of trust that the Quaker ideals of hard work, honesty, religious faith, and modest lifestyle be instilled in the students. In his own words, he said that "in this country every able-bodied, healthy young man who has learned a good mechanical trade, and is truthful, honest, frugal, temperate, and industrious, is certain to succeed in life, and to become a useful and respected member of society." Although some of the original rules have since been adapted to the times, the school remains dedicated to the values upon which it was founded.

The Foundation Deed

The following paragraphs are taken from the amended and restated Deed of Trust of Williamson College of the Trades (dated May 15, 2015), the publication initially authored by Isaiah Williamson in 1888 that established the school.

WHEREAS, The subject of the proper training and education of youth to habits of industry and economy, and the importance of their learning trades, so that they may be able to earn their living by the labor of their hands, has for a long time received my careful attention;

AND WHEREAS, I am convinced that the abandonment or disuse of the good old custom of apprenticeship to trades has resulted in many young men growing up in idleness, which leads to vice and crime and is fraught with great danger to society;

AND WHEREAS, I am impressed with the belief that in many worthy institutions founded for the free education of the young, and sometimes even in the public schools, the system and course of education, and the as-sociations and surroundings connected therewith, often unfit a young man for a life of manual labor, and

induce a false belief in his mind that to labor with his hands is not respectable–and that for this reason professional and mercantile pursuits are overcrowded with incompetent candidates who meet with failure–and thus many who, if they had been differently trained in early life, could have supported themselves at some trade in comfort and decency are condemned to idleness and often to dissipation, beggary, and crime;

AND WHEREAS, For nearly thirty years I have carefully considered this subject, with the intention at the proper time of founding and endowing a free institution, to be located in the city of Philadelphia or its vicinity, where, subject to the control of proper managers and under the direction and supervision of skillful and expert instructors, poor and deserving boys could be gratuitously instructed in the rudiments of a good English education and what is of equal, if not greater, importance, trained to habits of industry and economy and taught such mechanical trades or handicrafts as may be suited to their several capacities, so that when they arrive at manhood they may be able to support themselves decently by the labor of their own hands and become useful and respectable members of society; as I am well convinced that in this country any able-bodied young man of industrious and economical habits who has learned a good mechanical trade can not only earn a good living and acquire an independence, but also become a useful and respected citizen;

AND WHEREAS, The time has now arrived at which I can put my long cherished intention into effect, and devote and dedicate to the object a sufficient fund out of means which have been saved and accumulated for the purpose;

NOW, KNOW ALL MEN BY THESE PRESENTS, That I, Isaiah V. Williamson, of the city of Philadelphia, merchant, in order to carry out the object I so long have had in view, in the hope of supplying a long-felt want in the community, and with the intention and design of founding and endowing in perpetuity an institution to be known as the Williamson Free School of Mechanical Trades, with its name to be changed to "Williamson College of the Trades" to be effective on or about July 1, 2015, and hereinafter designated as the "college" do hereby make, constitute, and appoint my friends John Baird, James C. Brooks, Lemuel Coffin, Edward Longstreth, William C. Ludwig, Henry C. Townsend, and John Wanamaker, all of the city of Philadelphia, and their successors in the trust appointed or created as hereinafter directed, the Trustees to hold the title to, erect, equip, maintain, direct, and manage the college... .

I declare and direct that all moneys received by the Trustees from the fiscal trustee or other sources shall be received, held, and used by the Trustees for, upon, and subject to the trusts and confidences, and for the uses and purposes hereinafter declared of and concerning the same, and for no other, that is to say: --

Out of the moneys received from the principal of the Building Fund to purchase, pay for, and take title to in the name of the Trustees, as trustees under this deed, a body of land not exceeding in the aggregate three hundred acres, situate in some suburban part of the city of Philadelphia, or in either of the counties of Bucks, Delaware, or Montgomery, in the State of Pennsylvania; to prepare said land for the purpose and to erect thereon suitable buildings, structures, erections, and appurtenances; to lodge, board, teach, and instruct as many scholars as, in the opinion of the trustees, the revenue of the Endowment Fund, and other sources of income herein authorized to be expended for the purpose, will provide for; and in addition thereto to lodge and board as many other persons, such as officers, superintendents, teachers, instructors, agents, workmen, and employ-ees, as in the opinion of the Trustees it may be necessary or convenient to lodge and board upon the premises, for the purpose of fully carrying out the design I have in view, and of completely establishing and successfully maintaining the college herein intended to be founded and endowed; and thereupon out of the said moneys to furnish and fully equip the college with such furniture, stock, materials, machinery, tools, implements, books, plant, and equipment as in the judgment of the Trustees may be necessary or convenient for the purpose....

I direct that all the principal building and erections shall be constructed of stone or brick, and made as nearly fireproof as can properly be done with the amount to be expended upon them. I leave to the judgment and discretion of the Trustees the character, number, and extent of the said building to be erected, but as the great object to be attained is to board, lodge, educate, and instruct in mechanical trades those who, when arrived at manhood, will be obliged to labor with their hands for their support, I particularly direct that all palatial structures, expensive materials, and elaborate ornamentation or decorations shall be avoided, so that the scholars may not by reason of luxurious or expensive accommodations and surroundings acquire tastes or habits which may unfit them for their trades in the sphere of life in which their lots are to be cast.

Out of the moneys received by the Trustees from the Fiscal Trustee, from the revenue or income of the Endowment Fund or other sources, to pay for the insurance, repairs, and renewals of the property, the salaries, wages, and other compensation of managers, officers, agents, teachers, instructors, workmen, or other employees, the cost of materials and supplies, the cost of boarding, lodging, teaching, and instructing the scholars, and of boarding and lodging any or all officers, agents, teachers, instructors, workmen, or other employees whom the Trustees may think it proper to board and lodge at the college, and any other charge or expense contracted or payable by or properly chargeable to the Trustees, for, upon, or by reason of the management, maintenance, support, renewal, or repair of the college and its appurtenances, and of the lands, buildings, improvements, furniture, stock, materials, machinery, tools, implements, plant, and equipment thereto belonging or appertaining. And I direct that the decision of the Trustees as to what are or may be necessary expenses for the maintenance, support, management, renewal, or repairs of the college and its appurtenances, and of the lands, buildings, improvements, furniture, stock, materials, machinery, tools,

implements, plant, and equipment thereto belonging or appertaining, shall be final and conclusive upon the subject: Always provided, however, as hereinbefore directed, that no part of the principal of the Endowment Fund shall ever be used for the purpose.

I direct that the said college shall be known and designated as "Williamson College of the Trades" effective July 1, 2015 or such other date as is approved by the Trustees.

The Trustees shall employ from time to time, at proper compensation to be fixed and established by the Trustees, competent officers, teachers, instructors, agents, mechanics, workmen, and employees to take charge of the said college, and to feed, educate, and instruct in trades as hereinafter provided all who may be admitted as scholars to the college.

When the college is prepared to receive scholars, the Trustees shall from time to time receive and admit to the college as scholars as many young male persons of good moral character, of such ages between sixteen and twenty years, as may from time to time be determined by the Trustees, as, in the opinion of the Trustees, the extent, capacity and income of the college will provide for. Applicants shall be able to meet the physical demands of the college's curriculum, which focuses on developing both a strong mind and body for work in the trades. The requirements for admission to the college shall, in all respects, comply with applicable law. Preference shall be given, in the admission of scholars: First, to those residing in the counties of Bucks, Chester, Delaware, Montgomery, and Philadelphia in Pennsylvania; second, to those residing elsewhere in Pennsylvania; third, to those residing in the States of Delaware, Maryland, or New Jersey; fourth, to those residing elsewhere in the United States. And in all cases, other things being equal in the order of preference, the preference shall always be given to the poor. But I especially direct that no scholar who has been properly admitted with reference to the order of preference, shall thereafter be displaced to make way for any later or subsequent applicant who may be higher in the order of preference hereinabove directed to be observed. And the decision of the Trustees as to the number of scholars to be admitted, and as to the conflicting claims of any or all rival candidates for admission, shall be final and conclusive upon all parties. All scholars shall be citizens of the United States or lawful resident aliens. All scholars admitted to the college shall receive scholarships for such respective periods as the Trustees may from time to time determine; Provided, that no scholarship shall be for less than three years nor extend beyond the scholar's twenty-third birthday.

All scholars admitted to the college shall be fed with good, wholesome food and decently and fitly housed and lodged. They shall also, if in the opinion of the Trustees they have not been sufficiently educated before their admission, be thoroughly instructed and grounded in the rudiments of a good common-school English education, embracing spelling, reading, writing, arithmetic, grammar, geography, history, particularly of the United States, and also such of the natural and physical sciences and lower mathematics as in the opinion of the Trustees it may be important for them to acquire, to fit themselves for the trades they are to learn.

In describing this course of English education I do not intend to make it obligatory that all the branches I have named shall be taught, or that those not named shall be excluded, nor do I intend that any one fixed or established course shall be taken by all the scholars, I leave all this to the discretion of the Trustees, but I request that they shall at all times bear in mind the fact that the main object I have in view is to train young men to mechanical trades, so that they may earn their own living, and that while the acquisition of any branches of an English education which may be of aid to them in their several trades is necessary and important, any higher or advanced knowledge which might render them dissatisfied with or unfit for their employments is unnecessary and may be disadvantageous. I expressly direct that each and every scholar shall be compelled to learn and be thoroughly instructed in one good mechanical trade, so that when they leave the college they may be able to support themselves by the labor of their own hands. I leave to the discretion of the Trustees the selection of the several kinds of mechanical trades to be taught, and the determination of the particular one that shall be taught to and acquired by each scholar, but I particularly desire that the taste, capacity, intelligence, and adaptability of each scholar be ascertained and considered before assigning him to any particular trade. Among the trades which may be taught are those of baker, blacksmith, bricklayer, butcher, cabinetmaker, car builder, carpenter, carriage maker, coppersmith, the crafts of constructing, managing, and repairing electrical appliances and apparatus, foundryman, gasfitter, gold-beater, harnessmaker, hatter, locksmith, machinist, marble mason, moulder, painter, paperhanger, patternmaker, plasterer, plumber, printer, saddler, shoemaker, steam engineer, slater, stonecutter, stonemason, tailor, tiler, tinsmith, turner, wheelwright, and many others. In mentioning these several trades, I do not intend to make it obligatory upon the Trustees to teach all of them, nor do I intend to exclude any of those which are not mentioned, and I authorize the Trustees to the extent that the cultivation, care, and adornment of the lands and grounds connected with the college will admit, to instruct such of the scholars as show taste and capacity for the occupation, in the art of farming and gardening, or either.

I desire and direct that the moral and religious training of the scholars shall be properly looked after and cared for by the Trustees, but that there shall be no attempt by the Trustees at proselytism among the scholars, and no favoritism shown by the Trustees to any particular sect or creed. I especially direct that each scholar shall be taught to speak the truth at all times, and I particularly direct and charge as an imperative duty upon the Trustees that each and every scholar shall be thoroughly trained to habits of frugality, economy, and industry, as above all others the one great lesson which I desire to have impressed upon every scholar and inmate of the school is that in this country every able bodied, healthy young man who has learned a

good mechanical trade, and is truthful, honest, frugal, temperate, and industrious, is certain to succeed in life, and to become a useful and respected member of society.

I desire and direct that the physical training of the scholars shall be carefully attended to, that they shall have proper exercise and recreation, so that so far as such a result can be brought about by training and care, each one may grow up with a sound mind in a sound body.

I direct that the boarding, lodging, education, instruction in trades, and all other advantages to be derived by the scholars under this deed, shall be gratuitous, in the manner and to the extent hereinafter provided and with such limitations or exceptions as the Trustees may approve. The Trustees are directed to meet this commitment by providing scholarships to such scholars and/or benefits to such scholars, using earnings from its endowment funds, cost savings resulting from its student work program, accepting gifts, student aid grants, student fees and charges, and other sources of revenue to offset the scholars' cost of education. The amount, terms and requirements of the scholarships and/or benefits and services and the fees and charges which may be imposed may vary depending upon a scholar's demonstrated financial need, legal or tax requirements, or other factors and shall be determined in accordance with guidelines approved by the Trustees. The college shall provide athletic uniforms to scholars participating in the college's athletic programs and provide other clothing to scholars who have a demonstrated financial need. In order to obtain additional resources, the college is authorized to participate in grant or student aid programs of federal, state, or local governmental agencies and other organizations or entities, public or private, and to make such adjustments in its educational programs or other policies that the Trustees may deem advisable in order to permit, facilitate or expand such funding. In particular, but without limitation, the college may impose fees and charges such as entrance fees, refundable deposits, annual fees, technology access fees, shop fees, student activity fees, parking fees, charges for books, supplies or equipment or other fees and charges, require payment of health insurance premiums or other costs, and may collect dues or contributions from scholars when duly authorized by a recognized student council, student association, student club or class. The college may, in its discretion, reduce or eliminate all or any part of such fees, charges or other costs, based on a scholar's demonstrated financial need, the college 's available resources or other factors.

If, in the opinion of the Trustees, any scholar should become incompetent to learn or master a trade, or become intractable or insubordinate, or be guilty of vice or crime, he may be expelled from the college by the Trustees, and I direct that all scholarships and other documents shall be so drawn as to permit this to be done. I particularly direct that the decision of the Trustees as to whether a scholar deserves expulsion under this article G shall be final and conclusive upon the subject. And I further direct that the Trustees may cancel the scholarship of any scholar upon withdrawal from the college or for any other reason which, in the judgment of the Trustees, is good and sufficient… .

The College

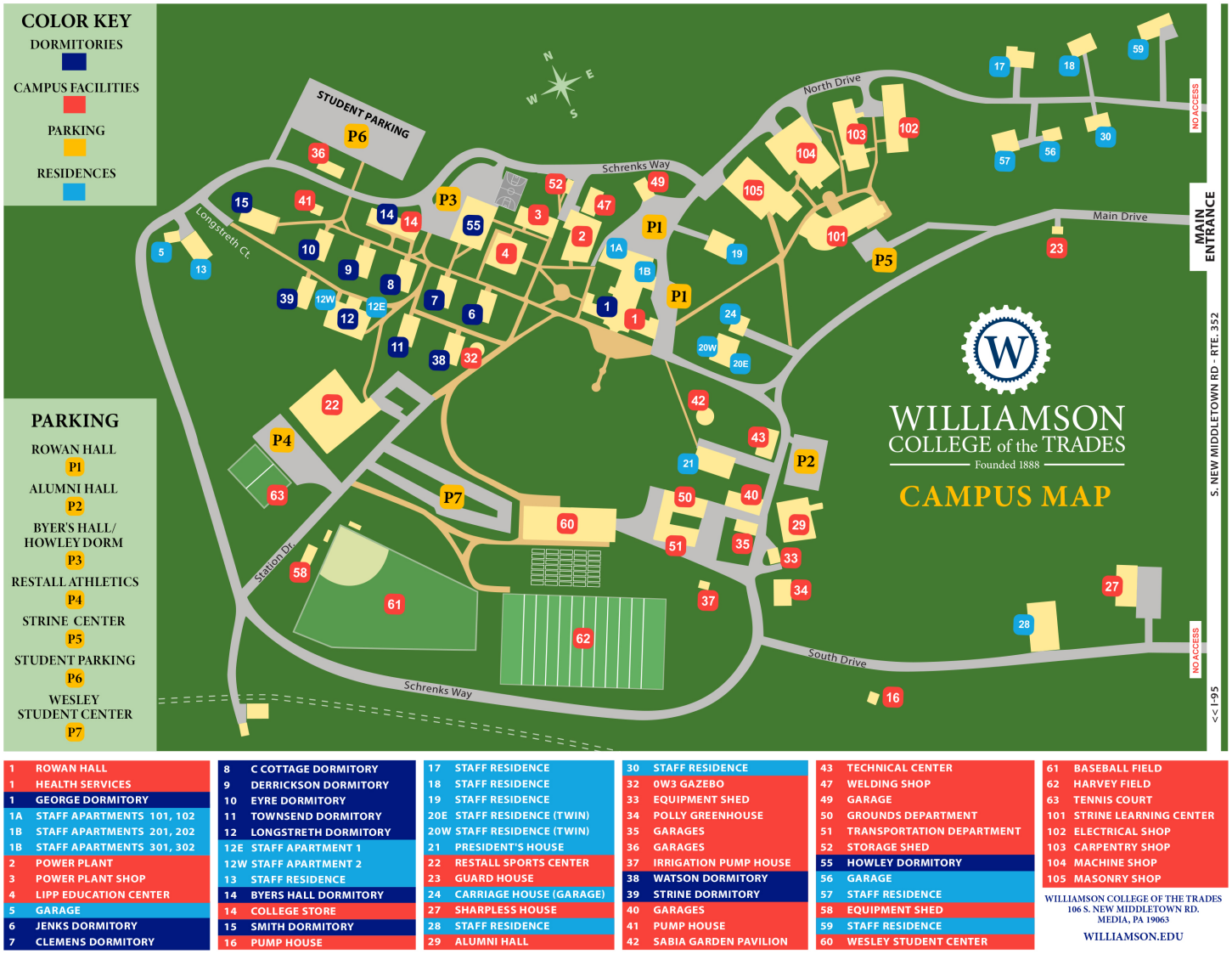
The 220-acre campus, located in Middletown Township, Delaware County, Pennsylvania, was purchased in 1889. Frank Furness, one of the most prominent architects of the day, was employed to design the buildings. The school opened in 1891 and it offered three-year programs in bricklaying, carpentry, machine shop, and patternmaking. With the first graduation in 1894, the school became a significant pioneer in America's vocational education movement.

In 1957, when a fire destroyed all but one of the shop buildings, it looked like Williamson might be forced to close, but the college was saved when the Board of Trustees entered into agreement with the Trustees of the Rodman Wanamaker estate, creating the John Wanamaker Free School of Artisans, now an integral part of Williamson. The agreement funded the construction of four new shop buildings and a general education building and provided an endowment that covered an increase in the number of scholarships offered.

Until 1961, students were of high school age and the school's curriculum emphasized the trades. However, due to the rise of secondary education and the significant advances of technology, the Williamson Board of Trustees decided to convert the school to a postsecondary institution. Programs were upgraded and in 1972 the Commonwealth of Pennsylvania granted the school the authority to award the Associate in Specialized Technology Degree. Williamson now offers Associate in Specialized Technology degrees in Construction Technology (with an emphasis on carpentry, electrical, or masonry); Landscape Construction and Management; Machine Tool Technology; and Power Plant Technology.

As of July 1, 2015, Williamson formally changed its name to Williamson College of the Trades, a name that more clearly articulates the college's identity and educational focus to those outside the Williamson community while remaining faithful to the college's mission and maintaining a close connection with the past. Begun in the 19th century, Williamson still provides a quality trade and technical education, at no cost for tuition or room and board, to deserving young men and continues to upgrade its programs to meet the current challenges of advancing technology.

Campus Map



Emergency Preparedness Plan

Williamson's Emergency Action Guide is posted on the college's Blackbaud portal; a print copy is available in all college classrooms, trade shops, common areas, dormitories, and faculty/staff offices.

2026-2027 Calendar

2026-2027 Calendar (Fall and Spring Semesters)

Month	Date	Event
July	3	Independence Day Holiday - College Closed
August	11-14	Freshman First Year Experience (FYE)
	15	Fall Sports Camps Begin
	17-21	Faculty/Staff In-Service
	19-24	Freshman Registration / Orientation
	24-25	Junior/Senior Registration / Orientation
	25	Fall Semester Classes Begin
September	4-7	Labor Day Break – College Closed
	8	Fall Semester Add/Drop
	10	Convocation
October	1	Phi Theta Kappa Induction
	17	Homecoming
	19	Homecoming Break Day - College Closed
November	4	Fall Career Fair
	10	Rowan Day
	23-27	Thanksgiving Break - College Closed
December	14-18	Final Exams
	18	Fall Semester Ends
	21	Winter Break Begins - College Closed

Month	Date	Event
January	4	Offices Reopen
	4-8	Faculty/Staff In-Service
	11	Spring Semester Classes Begin
	18	Martin Luther King Jr. Day - College Closed
	25	Spring Semester Add/Drop
February	4	Founder's Day
	10-12	No Classes
	15	President's Day – College Closed
March	9	Spring Career Fair
	22-29	Spring Break - No Classes
April	19-20	Senior Capstone Experience (SCE)
	29	IV Club Induction Ceremony
	30	Final Exams begin
May	3-6	Final Exams
	7	Senior Chapel
	7-14	Junior Leadership Expedition (JLE)
	10-12	Service Week
	20	Commencement
	28-31	Memorial Day Break - College Closed
June	1	Offices Reopen
	18	Juneteenth - College Closed

Admissions

Application Process

To be eligible for consideration for admission, each applicant must do the following:

1. Meet all Admission Requirements listed below
2. Submit all Required Application Materials
3. Attend Applicant Day (to tour the campus and complete required admissions materials)
4. Complete our financial application process
5. Attend a Williamson Applicant Interview Session
6. Complete FAFSA application (all applicants) and complete Pennsylvania State Grant application (only Pennsylvania applicants) no later than April 30 of each calendar year.*
7. Attend a Williamson New Student/Financial Aid Workshop*

* To be completed upon acceptance to Williamson

Admission Requirements

Applicants must meet all of the following Admission Requirements:

1. Be a male, permanent legal resident of the United States
2. Be 20 years or younger by June 1st of enrollment year
3. Be unmarried with no children
4. Have a high school diploma or GED prior to enrollment
5. Be of good moral character
6. Pass a preadmission drug screen
7. Possess medical/health insurance prior to enrollment
8. Be able to meet the physical demands of the college's curriculum, which focuses on developing both a strong mind and body for work in the trades (the requirements for admission, in all respects, comply with applicable law).
9. Demonstrate financial need. (All interested candidates may apply, but preference is given to those with the greatest financial need based on the results of our financial application process conducted by a third-party service.)

Required Application Materials

Applications are due by early December of each year (the specific application due date is released each year through the Office of Enrollment Management). Applicants must submit a completed online application through the college's website (www.williamson.edu) and upload the following items to their application portal:

- Most recent high school transcript or GED documentation
- Documentation of permanent legal U.S. residency. U.S. citizens should provide a copy of official, state-issued birth certificate (hospital-issued birth certificates are not acceptable); naturalized U.S. citizens should provide a naturalization certificate; non-citizens should provide other documentation of permanent legal U.S. residency (please contact the Vice President of Enrollment Management for information).
- Postsecondary transcripts (optional, if desired).

Applicant Days and Interview Sessions

For Applicant Day reservations, applicants should visit the college's website (www.williamson.edu) or contact the Office of Enrollment Management.

Academically qualified applicants who have attended an Applicant Day will be invited to an Interview Session. (Dates for Interview Sessions will be announced during the Applicant Day.)

Selection Process

Applicants who meet the college's Admission Requirements, have submitted the Required Application Materials, and have attended an Applicant Day are evaluated by the Academic Assessment Committee. Academically qualified applicants are invited to an Interview Session. Qualified applicants who have interviewed are considered by the Selection Committee (note that the Vice President of Enrollment Management is not a voting member of the Selection Committee). Because the number of applications far exceeds the number of scholarships available, admission to the college is competitive and depends upon each applicant's

- Financial need
- Performance on the Applicant Day writing and mathematics assessments
- Academic performance in secondary and/or postsecondary school
- Interview evaluation
- Program preference

Transfer Students

Given the cohort structure of Williamson's degree programs, the college does not generally accept transfer credits from other institutions. Transfer credits to fulfill specific course requirements are approved on a case-by-case basis through the Office of Academic Affairs. Williamson College of the Trades maintains several articulation agreements with other universities and colleges in the region. For more information, please contact the Office of Academic Affairs.

The Williamson Agreement

Students attend Williamson under an agreement which includes the following terms:

The College Offers:

1. A Williamson scholarship (to be applied to tuition and room and board) contingent upon the student adhering to the college's rules and policies and maintaining a satisfactory academic record
2. Use of a laptop, educational materials, and shop equipment
3. Education and training in an Associate in Specialized Technology Degree program
4. An Associate in Specialized Technology Degree upon the successful completion of a trade or technical program

The Student Consents to:

1. Make an earnest effort at all times to abide by the regulations, policies, and procedures of the college
2. Accept and meet the college's educational standards
3. Learn a trade
4. Remain at the college for the full three years
5. Comply with the college's Alcohol and Drug Policy as outlined within this catalog and the Student Handbook
6. Be prompt and diligent in attendance and request no special leaves of absence except in case of an emergency
7. Not hold the college responsible for loss or damage to personal property
8. Contribute to the operation of the college and complete all assignments and duties willingly and completely
9. Provide his own clothing, transportation, medical and dental care, health insurance, and personal tools, equipment, and books
10. Abide by all accident prevention regulations, safety codes, and safety equipment requirements and accept full liability for any personal injuries which arise from negligence

The college may terminate the agreement and dismiss a student from Williamson for the following reasons:

1. Failure to meet educational standards
2. Code of conduct violations and discipline problems
3. Physical or psychological issues which prevent the student from completing the college's educational requirements
4. Any other sufficient reason warranting termination of a scholarship, including the student's failure to adapt to the college's expectations regarding conduct

Financial Aid Information

Financial Aid Policies

Williamson's Cost of Attendance is approved by the Board of Trustees each academic year and is published on the college's website. The administration strongly encourages all students and their families to visit the college website often as it outlines a number of institutional policies and procedures regarding financial aid and expected student costs. The website also hosts Williamson's Net Price Calculator which is a tool designed to individually estimate the cost of attendance and types of financial aid a student might qualify for in the upcoming academic year. The Net Price Calculator is typically updated at the beginning of each academic year following the Federal and State Department of Education's release of the grant award value for the subsequent academic year.

All Williamson students are eligible to receive a Williamson Scholarship which, alongside any Federal Pell and Pennsylvania State Grants (Pennsylvania residents only) received, will defray a student's annual tuition and room and board costs. To qualify for a Williamson Scholarship, all students (including incoming freshmen) must complete and submit a Free Application for Federal Student Aid (FAFSA) for Pell and State Grant (Pennsylvania residents only) consideration. Defined by the Federal Department of Education as an institutional scholarship, the Williamson Scholarship award amount is calculated only after the value of a student's Pell and State Grant (Pennsylvania residents only) is determined by the completion and submission of a FAFSA form. Failure to complete and submit a FAFSA will prevent a Williamson Scholarship from being awarded, resulting in a full tuition, room and boarding charge to the individual student.

Upon acceptance in the spring of 2026, all incoming freshmen must attend a New Student/Financial Aid Workshop and complete and submit their FAFSA by April 30, 2026. Incoming freshmen who fail to accomplish these tasks by April 30, 2026, will prevent the Williamson Scholarship from being awarded, resulting in the student paying the college the full amount of tuition and room and board by May 15, 2026; failure to meet these deadlines will lead to enrollment cancellation. Please note the dates outlined in this paragraph may be modified by the college in response to an unanticipated change in federal or state student financial aid regulatory requirements.

In addition, students must complete and submit their FAFSA prior to their junior and senior years. Currently enrolled students must complete and submit their FAFSA by February 1 prior to the start of their subsequent academic year (to receive a Williamson Scholarship for the 2026-2027 Academic Year, a currently enrolled student must have completed his FAFSA by February 1). Failure to accomplish these tasks by February 1 may prevent the Williamson Scholarship from being awarded for the subsequent academic year, resulting in the student paying the full cost of tuition and room and board by August 1, 2025.

Applicants, incoming students, and currently enrolled students must ensure all information provided as part of the application process (to include FAFSA), and subsequent annual FAFSA submissions, is accurate and without falsehood or omission. False or misleading information may lead to enrollment cancellation.

The college's Financial Aid Office is available to assist students and their families to complete their financial aid applications. New students to Williamson will receive an itemized Annual Fees and Books and Supplies letter included in their enrollment package. Continuing students can review their itemized letter, tailored specifically to their academic year and trade program, on the college's website under the Cost of Attendance section. While students should refer to their itemized letter for specific academic fee and program costs, students should anticipate the following estimated initial and recurring costs for the 2026-2027 Academic Year:

- Annual Fees: $140
- Enrollment Deposit (Freshman Only): $200
- Books and Supplies: Varies by academic year and program; see the "Financial Aid/Cost of Attendance" tab on the school's website.
- Optional Student Parking Fee (Juniors and Seniors only): $175.00. A student discount is available to each student who is current with his class dues.

All students must provide an enrollment deposit which may be returned to the student as outlined within the college's Student Withdrawal process. All students must provide their own health insurance.

Please note that Williamson is not approved by the Veterans Administration to offer GI Bill or Yellow Ribbon program benefits.

Student Withdrawal and Refund Policy

As outlined within the Student Enrollment Agreement, *Student Handbook*, and *Catalog*, Williamson's student refund process is initiated through the completion of the student withdrawal process, which establishes an official withdrawal date.

All applicant costs will be refunded, if such a request is made within three days after signing an Enrollment Agreement and making an initial payment. An applicant requesting cancellation more than three days after signing an Enrollment Agreement and making an initial payment, but prior to entering the school, is entitled to a refund of all monies paid. Applicants who have not visited the school prior to

enrollment will have the opportunity to withdraw without penalty within three business days following either the regularly scheduled orientation procedures or following a tour of the college facilities and inspection of equipment where training and services are provided.

In all other cases, the refund process is coordinated automatically through the completion of the college withdrawal process. Refunds for specific student costs are calculated by percentage by the college Business Office in accordance with the established student withdrawal date as outlined in the Student Withdrawal Refund Percentage table. The college will make all required refunds within sixty business days of the established student withdrawal date.

Student Withdrawal and Refund Percentage Table

Withdrawal Period	Tuition	Room & Board	Enrollment Deposit	Annual Student Fees	Books & Supplies
Within Three Business Days of Signing the Enrollment Agreement	100%	100%	100%	100%	100%
First Academic Day of Class	100%	100%	Note 1 See	100%	100%
Tenth Academic Day of Classes	100%	100%	Note 1 See	No refund	See Note 2
End of the Third Week of Academic Classes	80%	80%	See Note 1	No refund	See Note 2
End of the Fourth Week of Academic Classes	50%	50%	See Note 1	No refund	See Note 2
End of the Sixth Week of Classes	25%	25%	No refund	See Note 1	See Note 2

Note 1: The student *Enrollment Deposit* is refunded to an *Officially Withdrawn* student upon successfully completing the withdrawal process. Failure to return or intentionally damaging college equipment or property will result in a reduction of the student's deposit amount to address replacement or repair costs. Students that are *Unofficially Withdrawn* will forfeit their deposit. The deposit will be returned to the student upon graduation, less any financial obligations to the college.

Note 2: The student *Books and Supplies* cost is used by the college to purchase individual equipment (e.g. tools, shop clothing, etc.), supplies, and books required for a specific academic program. As such, these materials are considered the personal property of each individual student and are not refundable following the first academic day of class.

Return of Title IV/PHEAA Funds for Students

The college Financial Aid Office is required by legislative statute to recalculate Federal and State financial aid eligibility for students who officially/ unofficially withdraw or take a leave of absence prior to completing 60% of a payment period or semester. The Federal Title IV financial aid and PHEAA State grant must be recalculated in these situations.

If a student leaves the college prior to completing 60% of a payment period or semester, the college Financial Aid office recalculates eligibility for Title IV funds. Recalculation is based on the percentage of earned aid using the following Federal Return of Title IV funds formula: Percentage of payment period or term completed = the number of days completed up to the withdrawal date divided by the total days in the payment period or semester. (Any break of five days or more is not counted as part of the days in the semester.) This percentage is also the percentage of earned aid.

Funds are returned to the appropriate Federal or State program based on the percentage of unearned aid using the following formula: Aid to be returned = (100% of the aid that could be disbursed minus the percentage of earned aid) multiplied by the total amount of aid that could have been disbursed during the payment period or semester.

Student Satisfactory Academic Progress Policy

Federal regulations require that all students who receive any financial aid meet federal academic progress standards while taking courses toward a degree or certificate program. This policy applies to all terms of enrollment, even if the student did not receive federal aid. Academic progress is measured both by cumulative grade point average and by course grades. The financial aid office checks student academic progress after both the fall and spring semesters.

Academic Progress Standards

A. **Completion Rate (67% Rule):** Students must receive a satisfactory grade in courses attempted by completing at least 67% of the credits for which they are enrolled. This percentage is calculated by dividing the number of credits earned by the number of credits attempted for the semester. All withdrawals, failures, and incompletes are counted as attempted but not earned credits.
    1. **Exception to the 67% Rule:** It is important to note that the 67% completion rule applies to Title IV financial aid. However, specific grant and scholarship aid programs may mandate a higher completion rate.

B. **Cumulative GPA Minimum Requirements (GPA Rule):** The college has established the following cumulative grade point average (GPA) standards:

At the end of	Cumulative GPA
1st Semester	1.5
2nd Semester	1.7
3rd Semester	1.9
4th Semester	2.0
5th Semester	2.0
6th Semester	2.0

If a student's cumulative GPA falls below the standard, he must meet or exceed the cumulative GPA standard for all ensuing semesters at the college or he will fail to meet the college's academic progress standards, resulting in ineligibility for future financial aid and enrollment termination. If a student fails to meet the college's Cumulative GPA Minimum Requirement in the last semester of his senior year, he cannot graduate from the college.

C. **Course Grade Requirements:** Students are required to pass all courses designated for their assigned curriculum. If a student fails a course, he must follow the college's Course Substitution Policy, as described in a subsequent section. Failure of three non-trade courses over the three-year program or failure of one trade course will result in disenrollment.

D. **Maximum Hours (150% Rule):** Students may only receive financial aid up to the point at which they can no longer complete their program of study within 150% of the program length (including all semesters, even if no federal aid was received). For example, if a program requires 100 hours, a student may only attempt up to 150 hours in that program. All hours attempted are counted.

E. **Withdrawals, Audits, Repeat Courses, and Incompletes:** Each student enrolls in a program with a set curriculum of courses to be taken each semester; students may not withdraw from, audit, or repeat courses. Students who withdraw from the college before the official end of the semester receive a W grade for all courses in their final semester of attendance. If a student receives a grade of Incomplete for a class, he has one semester following the conclusion of that class to satisfy class requirements and receive a final grade; if a student does not satisfy class requirements in the time allotted, he will receive a failure for his final grade. Once an Incomplete grade has been changed to a final grade, the student's record will be reviewed by the Office of Academic Affairs for compliance with academic progress standards.

   1. **Withdrawals – Exceptions:** Students who are granted a Leave of Absence after a semester has started but before a semester has been completed will receive Withdrawal grades for all classes, which do not count as a passing grade; these grades are counted in attempted credits. All courses that are graded as Withdrawals must be retaken and students will be required to earn a passing letter grade in order to continue at Williamson. See below for details.

F. **Course Substitution Policy:** If a student fails a non-trade course, he may not retake the course at Williamson but must find a substitute course at another institution. The student must then submit a Course Substitution proposal for approval to the Vice President of Academic Affairs. If approved, the student must successfully complete the proposed course, with a grade of "C" or higher, within three semesters following the semester in which the failure occurred (summer session is counted as a semester). Failure to successfully complete the substitute course within the specified time limit will result in the student being disenrolled from Williamson. The student's original grade will remain on his transcript, and the compensating course will be noted on the transcript. The initial grade will be used in calculating his cumulative grade point average. Even though the student has passed the course at another institution, the course still counts as a failure. Any student who fails three non-trade courses over the three-year program will be disenrolled.

G. **Change of Major and Double Majors:** Students may not change majors nor complete a double major. Once all the requirements for a program are completed, a student may no longer receive financial aid.

Ineligibility for Financial Aid

A. Any student who fails to meet the Academic Progress Standards listed above will be placed on Academic Warning by the Vice President of Academic Affairs. If a student on Academic Warning achieves a cumulative 2.0 grade point average or higher at the conclusion of any subsequent semester, the Vice President of Academic Affairs may remove the student from Academic Warning status. If a student on Academic Warning fails to meet Academic Progress Standards at the conclusion of any subsequent semester, he will be disenrolled from the college.

B. Students on Academic Warning remain eligible to receive financial aid if they meet Satisfactory Academic progress requirements.

Appeal of Satisfactory Academic Progress Decisions

Students who faced mitigating circumstances that may have affected their academic progress may appeal a satisfactory academic progress decision. Mitigating circumstances include the following: experiencing a serious illness or accident; the death, accident or serious illness of an immediate family member; or other mitigating

circumstances beyond the student's control. Poor time management, feeling "unprepared for school," or other circumstances that are in a student's control will not be accepted as mitigating circumstances. To appeal, a student must complete the Financial Aid Satisfactory Academic Progress Appeal Form (available on the Financial Aid page at the college's website), provide acceptable supporting documentation, and submit the appeal within 10 calendar days of the notice of academic disenrollment date to the Office of Academic Affairs. The Scholastic Standards Committee – composed of the vice president of Academic Affairs/CAO, the registrar, and the director of the student's trade program – will review the student's appeal and, in the case of approval, will place the student on financial aid probationary status until all academic progress standards are met.

Students may submit a letter of appeal on the decision of the committee to the college president within five calendar days of the committee's decision. The president's decision will be considered final.

If a student's appeal is approved, to continue receiving financial aid, the student must develop (with the vice president of Academic Affairs) and follow an academic plan and successfully meet the college's cumulative GPA minimum requirements and course grade requirements. Failure to follow the plan and successfully meet the college's stated requirements will result in disenrollment.

Regaining Financial Aid Eligibility

If a student does not meet satisfactory academic progress requirements but continues to meet the college's Cumulative GPA Minimum Requirements and Course Grade Requirements, he may continue his enrollment at the college without federal or state financial aid assistance. At the end of the semester and/or the year, the college will review the student's academic progress and, if all progress requirements are met, the student's financial aid eligibility will be reinstated for subsequent semesters.

Normally, students should complete all school programs in six semesters of full-time enrollment. Mitigating circumstances may necessitate an additional year or two. Students should understand that: (1) eligibility for federal aid is limited up to 150% of the expected program length (six semesters) for the associate degree, and (2) eligibility for state financial aid is limited to a maximum of four semesters for the associate's degree.

Insurance and Health Requirements

Prior to Freshman Registration, students are required to show valid proof of required immunizations and completion of a physical examination and drug screening. Physical examinations are typically scheduled during the college's required New Student Workshops. If a student is unable to attend a Student Workshop, the required physical must be scheduled by the student at their own expense. Drug screenings are coordinated through the Office of Enrollment Management.

Participants in the college's athletic program(s) must have a physical examination each year. Throughout their time at Williamson, all students are required to maintain medical insurance. Proof of medical insurance is reviewed periodically by Student Health Services throughout a student's tenure at the college.

Facilities

Location

Williamson is located on New Middletown Road (Route 352), in Delaware County, Pennsylvania, one mile west of Media, the county seat, and fourteen miles west of Philadelphia. A wide variety of attractions are located nearby, including historical sites, museums, shopping malls, theaters, parks, arboreta, and many other points of interest in the historic Delaware Valley.

The Campus

Situated on 220 acres of woodland and fields, the Williamson campus is listed on the National Register of Historic Places. Frank Furness, one of the most highly acclaimed architects of the late 19th century, designed eleven of the college's buildings. (The college boasts the largest collection of Furness buildings in the country and has received awards from historical societies for its upkeep of these buildings.)

In addition to faculty homes, athletic fields, woods, and streams, the campus boasts a variety of major buildings:

- Rowan Hall houses administrative offices, student lounge, dining room, medical suite, and the chapel
- Sixteen student dormitories: Byers Hall II and III (which also has a recreation room and the College Store), Clemens, Derrickson, Eyre, George, Howley I, II, and III, Jenks, Longstreth, Smith, Strine, Townsend, Watson, and C Cottage.
- The Restall Sports Center offers a basketball court, indoor running track, locker rooms, offices, lounge, and laundry facilities.
- The Joseph L. and Marion M. Wesley Student Center offers a well-equipped weight room, cardio exercise room, multipurpose athletic courts, an esports gaming center, and numerous student activity and meeting rooms.
- The John Wanamaker Free School of Artisans, an integral part of the college, includes separate Carpentry, Electrical, Machine, and Masonry trade shops and the Walter M. Strine Sr. 2W9 Learning Center, which houses the library, the career services office, faculty and administrative offices, and classrooms for studies that include mathematics, communications, physical science, business and finance, robotics, and drafting.
- Alumni Hall is the home of the Clarence W. Schrenk Program in Landscape Construction and Management (LCM). The LCM program maintains two greenhouses and many gardens, including the Sabia Garden adjacent to the McLean Technical Center. The complex of facilities supporting the LCM program is named in honor of Mrs. Dorrance H. Hamilton.
- The Lee Rowan School of Power Plant Technology is the center for power plant training along with campus power and heat generation. The complex of buildings includes a shop maintenance building and the Rupp Power Plant, the school's power/heat generating plant and living laboratory. Instruction and training is conducted in the Lipp Educational Center, which includes classrooms, faculty offices, a computer laboratory, a resource room with a technical library, and three separate laboratories: the mechanical operations and industrial wiring laboratory includes programmable logic controllers with computer interface, residential wiring stations, and a turbine instrumentation maintenance/ overhaul station; the laboratory includes level process stations, a dead weight tester, and a full range of calibration equipment; and the electrical laboratory includes Heathkit electronic trainers, motor control stations, motor generator training stations, motor control boards, and oscilloscopes.
- The Library, located in the Strine Learning Center, provides a collection of books and journals in each trade and technical area offered at Williamson, books and periodicals on general subjects, and computers with Internet access for research. When the college is in session, the library is open during the day, Monday through Friday, and selected evening hours. Through library services, students have access to online and print items from hundreds of libraries across the Commonwealth.
- Located in Byers Hall, the College Store sells academic supplies, snack foods, Williamson apparel, and a variety of school merchandise.

Campus Life

Student Services

Housing

While college is in session, all students are required to reside on campus within their assigned dormitories from Sunday evening through Friday afternoon. Each dormitory houses approximately twenty-five students, with two or three students to a room. The dorms are furnished simply, but comfortably, with a lounge for relaxation.

An adult Dormitory Manager assigned to each residential dormitory ensures the facility is kept clean and orderly. Each student is expected to follow Williamson's housing and dormitory regulations, as outlined within the Student Handbook. The regulations are intended to ensure a residential atmosphere that is safe and conducive to study.

The Director of Residence Life oversees the Dormitory Managers in supporting a positive, stable residential community that fosters student growth and development. Aiding the Dormitory Managers are the Student Resident Advisors, a responsibility rotated quarterly among dormitory student residents. The Resident Advisors assist the Dormitory Manager in managing the daily tasks associated with dormitory life.

Food Service

While the college is in session, breakfast, lunch, and dinner are served in the Rowan Hall Dining Room, from Monday morning through Friday evening. Weekend meals are also made available for students remaining on campus while the college is in session.

Counseling

Counseling services are provided by qualified counselors who offer assistance to students across a wide ranges of issues. All sessions with the counselor are strictly confidential. The college can also assist students in attaining off-campus support through many of its agency and service agreements. For a list of resources, please see the college website, the student Blackbaud portal, or the Student Handbook.

Student Health Services

The mission of Williamson's Student Health Services is to provide students and employees physical and educational programs that promote general wellness and a healthy lifestyle. Health Services provides a safe, caring, respectful, and confidential environment advocating that a healthy mind and body will enable each student to reach his maximum potential.

The Director of Health Services, a registered nurse, provides health services Monday through Friday from 7:30 a.m. to 3:30 p.m. in the Student Health Suite, located in the lower level of Rowan Hall. Health Services follows the guidelines of the American College Health Association, expecting students to accept responsibility for their own health and to realize that wellness and maintenance of good health habits should be a way of life.

The Director of Health Services provides appropriate care or referral for illnesses and injuries that occur during the academic day. Anyone requiring emergency treatment should report to Health Services immediately. Williamson accepts no responsibility for students who return from weekends or breaks unable to fulfill the required daily schedule. The college will contact parents to arrange for transportation and medical care when needed.

In the event that a significant physical, psychological, or emotional condition may hinder a student's ability to complete the program, the Director of Health Services will notify the Office of the Provost who may convene a review committee if needed. For further information, please see the college's Student Accommodation Support policy letter.

Student Health Services – General Policies and Requirements:

- Students are not permitted to begin college until their immunization, health records, and medical insurance coverage are properly documented within Health Services.
- Each student is required to have medical insurance to maintain his scholarship. Additionally, he is to have his current insurance card with him while on campus. When a student's insurance changes, he must immediately bring a copy of both sides of any new insurance cards to the Director of Health Services.
- All students are required to provide Health Services a letter of eligibility verifying the active status of their health care coverage prior to registration.
- Williamson immunization requirements are consistent with the recommendations of the American College Health Association, Pennsylvania Department of Health, and the Centers for Disease Control (CDC). Students requesting an exemption for a vaccine must provide all required documentation as outlined within the college's Student Immunization policy letter for the request to be considered. The policy letter is available online through Blackbaud for current students or through the Office of Enrollment Management for new students. The administration will review each exemption request on a case-by-case basis. Williamson reserves the right to deny any immunization exemption request.

- All medical expenses are the responsibility of the student and his parent(s)/ guardian(s) as indicated in the student's enrollment agreement.
- As an institution of higher education, HIPAA compliance prevents the college from discussing any care delivered to a student (including notification provided to parents) without their express written consent. This policy may be waived in cases of emergency.

Student Health Services – Appointment Policy

- Students departing the Williamson campus during a weekend or school break who are unable to function because of illness or injury must follow the procedure for reporting a student absence as listed within the Student Handbook
- Students should use breaks, days off, and evenings to arrange for routine medical, dental, and vision care appointments. Students may be allowed time away from the academic day for such appointments if approved by the Vice President of Student Affairs or the Provost in his/her absence.

Student Health Services – Pharmaceutical Policy

Student Health Services offers limited over-the-counter medications. Health Services cannot fill prescriptions. Prescription medications must be obtained at an outside pharmacy by the patient. Any student who is taking or has possession of a prescription medication must register all such medication with the Director of Health Services upon receipt and keep all such medications secured. Health Service can assist students in locating a local pharmacy if requested.

Patient Rights and Responsibilities

At Williamson, patients should expect:

- *Humane Care and Treatment:* Students are treated with dignity, consideration, and respect. Your personal beliefs and convictions will be taken into account when you seek help.
- *Competent Treatment:* Health care is provided by qualified professionals and all referrals are made to qualified providers as needed and within the requirements of each individual patient's health care coverage.
- *Accurate Information:* Students have the right to accurate information, to the extent known, concerning diagnosis, treatment, and prognosis of illness or health related conditions. Recommendations and instructions for achieving and maintaining good health will be included.
- *Health Care Decisions:* Students have the right to participate in decisions which are made regarding their health care and treatment. This will include appropriate alternatives to care when requested.
- *Confidentiality of Records:* Written permission is requested before releasing information or records to anyone not directly connected with your care.

Williamson expects patients to:

- *Provide Accurate Information:* Be honest and direct. Provide full information about your symptoms or problems to allow proper evaluation and treatment.
- *Seek Understanding:* Make sure you understand and agree with the treatment plan. If you find care or course of treatment unacceptable for any reason, it should be discussed with the Health Services Director. If unsure, please ask!
- *Be Compliant:* Following your treatment plan is an important part of reaching and maintaining optimal good health. Contact the Health Services Director if your condition worsens or does not follow the expected course. Do not give medication (prescribed for you) to others.
- *Practice Good Health Habits:* Become informed about healthy and safe behaviors. Know your body and recognize early warning signs before you become ill.
- *Be Courteous:* Show courtesy and respect to health care providers and other patients. If you are unable to keep an appointment, cancel or reschedule, so that the time may be given to someone else.

Career Services

Located on the second floor of the Strine Learning Center, Career Services is available to help students and alumni find full- and part-time employment. Supervised by the Director of Career Services, the office provides a variety of services, such as career advising; assistance with job search strategies, resume preparation, and interview skills; and access to a variety of employment resources. The college neither makes nor implies a claim or guarantee of employment.

Student Clothes Closet

Sometimes students may have financial difficulties in meeting the college's required dress code. Williamson provides donated, gently used clothing to students through the Student Clothes Closet. In recent years, this service has grown, offering everything from suits and sport coats to dress socks and shoes.

Laundry Services

Students are responsible for their own laundry. Washers and dryers are available on campus.

Student Life

Student Activity Program

All Williamson students are required to participate in at least one activity per year. The Student Activity Program has these objectives:

- to build teamwork and fellowship
- to teach discipline, industry, and excellence
- to serve and contribute to the college
- to create closer and more positive bonds between the students and the college

- to fulfill the foundation deed requirement: "I desire and direct… that [students] shall have proper exercise and recreation…"

The college offers a wide variety of seasonal and year-round activities to ensure that students can select an activity that interests them. Past and current activities include the following:

Seasonal Activities: Baseball, Basketball, Cross Country, Football, Lacrosse, Soccer, Wrestling

Full-Year Activities: Ambassadors, Archery, Artisans, Audio-Visual Club, Chapel Band, Chess, College Store Crew, Esports, Football Support, Newspaper, Student Cultural Awareness Program, Wing Night Team, Yearbook

Athletics

Students can participate in a variety of varsity and intramural athletics at Williamson. Varsity sports include cross country, football, soccer, basketball, wrestling, lacrosse and baseball. Intramural sports vary from year to year according to demand and have included volleyball, dodgeball, basketball, ultimate frisbee, flag football, Spikeball, and Olympic handball.

The Restall Sports Center offers basketball courts and an indoor running track. The Wesley Student Center also offers a well-equipped weight and cardio exercise room, multipurpose athletic courts, an esports room, and numerous student activity and meeting rooms. A wrestling training facility is located above the Power Plant.

Student Government

A faculty or staff member serves as Class Advisor for each class. Each class elects four class officers: President, Vice President, Secretary, and Treasurer. The Class Advisor, depending on student performance or conduct, may dismiss a student from student government and call for an election to fill the vacancy.

Class officers perform a leadership role on behalf of their classes, by advocating for policy and/or regulation changes, proposing class gifts to college administration, and representing their fellow students at key college events. Many of the duties and responsibilities of class officers center on fundraising, primarily for their class gift to the college.

Selected Activities

Ambassadors

Ambassadors play a unique role in furthering Williamson's mission to graduates, prospective students, benefactors, employers and friends. Members benefit from the practical experience of working with staff to promote school interests. Ambassadors develop a deep understanding of the college, its history and mission through fund raising, alumni relations, networking, campus tours and special events. Participants gain valuable experience in a variety of professional functions, while they meet interesting people and attend college events.

Student Newspaper

The *I.V. Monthly* is published by and for the students of Williamson. Issues generally feature articles on topics such as sports, shop notes, dorm notes, movie reviews, and interviews.

Audio-Visual Club

Students assist with technological needs and digital productions for the college. Students will have the opportunity to creatively document the story of Williamson for internal and external audiences, including social media content creation, audio and video event recording, editing, photography, and more.

Yearbook

The Mechanic, the student yearbook, is published by the senior class with the help of underclassmen and a staff advisor. The work includes writing, photography, design, and advertising sales.

College Routine

The Academic Year

The academic year consists of fall and spring semesters. Classes regularly begin the week preceding Labor Day and run until just before Christmas. Classes resume in mid-January and conclude with Commencement in May. Williamson's annual academic calendar is available for review on the Student Management System (Blackbaud) and the college website.

The Daily Routine

To prepare students for full-time employment, Williamson requires its students to follow a structured daily schedule. The typical daily schedule is as follows:

Event	Time
Breakfast (Optional)	6:30 - 7:15 a.m.
Lineup	7:15 a.m.
Chapel	7:30 a.m.
Classes/Shops:	
Period 1	8:00 - 8:50 a.m.
Period 2	8:55 - 9:45 a.m.
Period 3	9:50 - 10:40 a.m.
Period 4	10:45 - 11:35 a.m.
Lunch	11:45 a.m. – 12:30 p.m.
Period 5	12:45 - 1:35 p.m.
Period 6	1:40 - 2:30 p.m.
Period 7	2:35 - 3:25 p.m.
Period 8	3:30 - 4:20 p.m.
Athletics/Study Hall/Shop	4:45 – 6:30 p.m. (Mon-Thurs)
Dinner (Mon-Wed)	6:15 – 7:00 p.m.

Event	Time
Dinner (Thurs)	General: 5:00 – 5:30 p.m. Athletes: 6:30 – 7:00 p.m.
Evening Study Hall/Shop	7:00 – 10:00 p.m.
Lights Out	10:30 p.m.

Morning Lineup

The day at Williamson begins with lineup at 7:15 a.m., Monday through Friday. Students stand in front of Rowan Hall for roll call and are inspected to ensure that they comply with the college's dress code and grooming regulations. Lineup is held indoors in the event of inclement weather or darkness.

Chapel

As part of Williamson's commitment to providing moral and character training, a nondenominational service is held each weekday at 7:30 a.m. in the Chapel in Rowan Hall. Because Chapel is a vital part of the college's program, all students are required to attend. Chapel services emphasize moral and spiritual values presented from a Christian perspective, and include speakers from the staff, alumni, student body, and community.

First Year Experience and Freshman Orientation

Freshmen begin their journey as Williamson students by attending the college's First Year Experience (FYE) program. During this four-day event held just prior to Freshman Orientation, students are introduced to Williamson's core values, history, and leadership program through experiential activities. FYE is a mandatory event for all incoming freshmen.

Freshmen Orientation follows FYE and involves various administrative programs and in-processing requirements designed to acquaint new students with the college. Participation is mandatory for all freshmen.

Annual Events

A variety of annual events are held at Williamson for students and alumni:

- *Convocation*, when the Board of Trustees joins alumni and friends of the college to initiate the new school year
- *Homecoming*, an autumn Saturday of sports at the college for students, parents, and alumni
- *Rowan Day*, to honor Henry Rowan, Williamson's most generous benefactor since Isaiah Williamson founded the school, as well as the rest of the Rowan family
- *Founder's Day,* to honor I.V. Williamson, the school's founder
- I.*V. Club Induction Ceremony*, when select seniors are inducted into the I.V. Club for demonstrating the quality of leadership in exemplifying Williamson's core values
- *Phi Theta Kappa Induction Ceremony*, where select students are inducted into the International Academic Honor Society
- *Student Achievement Awards Ceremony*, to recognize outstanding academic achievement by the college's juniors
- *Scholarship Celebration Luncheon*, to recognize the benefactors who have provided scholarships to Williamson students
- *Athletics Celebration*, when Williamson's athletes are honored
- *Commencement*, to celebrate the seniors' graduation

Administrative Policies

The Student Handbook

The *Student Handbook* includes a full statement of, and all regulations regarding, Williamson's student services, student activity program, student service program, and the college's conduct code. Students must be diligent in complying with all of the regulations and procedures in the handbook.

The Conduct Code: An Overview

In his *Foundation Deed*, Isaiah Williamson charged the college to undertake "the moral and religious training of the scholars." To that end, and as part of its mission to foster the values of faith, integrity, diligence, excellence, and service, the college has established a Conduct Code. The code is designed to protect the rights of each individual in the Williamson community; to provide a clean, safe, and well-ordered community with an atmosphere conducive to education; and to help students entering careers in business and industry develop the responsibility, discipline, respect for authority, and ability to follow instructions that are essential for success.

There is a philosophical understanding that a Williamson education molds young men by creating standards towards which each student is expected to rise. Consequently, there is a greater expectation of seniors than of juniors and a greater expectation of juniors than of freshmen. As such, disciplinary standards in the Conduct Code have been developed to reflect the greater emphasis on positive leadership and responsibility as the student progresses through his education at Williamson. It does not include every possible subclassification of the offenses indicated but offers a general guide to the rules governing the conduct of individual students and student groups. Because admission to Williamson is a privilege, it is assumed that the college's regulations will be followed diligently.

Disciplinary Points and Restriction Hours

To ensure that students follow the Conduct Code, the college has instituted a disciplinary system that entails citations for violations of the Conduct Code and the assignment of disciplinary points. Under the system, any Williamson supervising authority can cite a student for violation of the Conduct Code (in accordance with the rules outlined therein). Each citation carries with it a certain number of disciplinary points. Students are required to work off disciplinary points each year in service to the college. Specific information with regard to Conduct Code violations can be found in the *Student Handbook*.

Disciplinary Appeal

The college intends to be fair and consistent in enforcing the Conduct Code. To this end, Williamson has established a Conduct Code Review Committee to consider cases of disciplinary appeal which are brought by students. If a student is cited for violating the Conduct Code and he believes the citation is unfounded, he may petition for a Disciplinary Appeal Hearing.

Character and Progress Reviews

Students who accumulate excessive points undergo a Character Review and potentially a Progress Review – committee actions to review the student's disciplinary record and provide a recommendation to the Provost on whether the student should be retained or dismissed.

Attendance Requirements

Students must be on campus whenever directed by the staff or faculty, but at a minimum from 10:00 p.m. Sunday night through 4:30 p.m. dismissal on Friday afternoons. Attendance is checked daily at morning and evening lineup, in classes, shop, day and evening study halls, at lights out, and at details.

Students are tardy when they arrive late to class, shop, or other scheduled activities. Both tardiness and unexcused absences at any attendance checks are addressed as Conduct Code infractions.

Dress and Grooming Regulations

Dress and grooming regulations are designed to promote safety and instill a sense of professionalism within the student body. When students fail to project a professional image through following the college's student dress and grooming standards, they receive a conduct code violation. Specific dress and grooming standards are outlined within the *Student Handbook*.

Housing and Dormitory Regulations

Each student must follow the college's housing and dormitory policies as outlined in the *Student Handbook*. The regulations are intended to ensure a residential atmosphere that is safe and conducive to educational study.

Motor Vehicles

Freshmen may not keep a motor vehicle on campus. For a fee, select juniors and seniors with a valid driver's license may park registered

and insured motor vehicles in an assigned space on campus. Regulations concerning student driving on campus may be found in the *Student Handbook*.

For those using public transportation, the Southeastern Pennsylvania Transportation Authority (SEPTA) provides train and bus service from Philadelphia. The Elwyn train station is within easy walking distance of the college.

Drug-Free College

Williamson College of the Trades complies with the Drug-Free Workplace Act of 1988 and the Drug-Free Schools and Communities Act of 1989.

Williamson College of the Trades' Alcohol and Drug Policy Introduction

Williamson College of the Trades teaches safety-sensitive trade programs. To ensure a safe and healthy educational environment for all students, faculty, and staff members, the college maintains an alcohol-free and drug-free campus. The health and legal risks associated with alcohol or drug use are outlined within the *Student Handbook*, and our college website in compliance with federal law. Counseling and support services are available for any student who seeks them. This policy is consistent with industry standards (which have drug-free policies in the workplace) and is recommended by industry.

Statement of Zero Tolerance: Alcohol Use

Williamson College of the Trades complies with the Drug-Free Workplace Act of 1988 and the Drug-Free Schools and Communities Act of 1989. In order to promote its fundamental mission safely, the college has adopted a zero-tolerance policy for consumption, distribution, or possession of alcohol by any student regardless of age, on campus or while attending any school sponsored event. Students under the influence of alcohol on campus, or while attending any school sponsored event, are considered to be in violation of this policy. Students violating this policy will face disciplinary sanctions up to and including possible dismissal. Students 21 years of age and older, in alignment with federal and state law, may consume alcohol off campus. However, the college reserves to right to assign disciplinary sanctions, up to and including possible dismissal for violations of local, state, or federal laws associated with the use or distribution of alcohol (e.g., driving under the influence, public intoxication, providing alcohol to an underaged individual, etc.). The consumption, possession, or distribution of alcohol by an underaged student is a violation of state and federal law. Students violating this policy off campus will face disciplinary sanctions up to and including possible dismissal. Alternative sanctions may include disciplinary probation and restrictions, attendance in an alcohol rehabilitation program, and periodic testing.

Alcohol Testing Policy

The college reserves the right to require an alcohol test from a student where there is a reasonable suspicion that the college's zero tolerance policy has been violated. Failure to submit to an alcohol test is a violation of the college's disciplinary policy and may result in dismissal. A breathalyzer test is typically used by the college with a reading of .02 or higher considered as proof of alcohol use. Students who are selected will be tested immediately or as soon as possible following notification. A student who admits to alcohol use after being informed of the test will still be tested. Any attempt by the student to tamper with or invalidate a testing sample will be considered a failed test.

Statement of Zero Tolerance: Illegal Drug Use

Williamson College of the Trades complies with the Drug-Free Workplace Act of 1988 and the Drug-Free Schools and Communities Act of 1989. In order to promote its fundamental mission safely, the college has adopted a zero-tolerance policy for the use, possession, distribution, or manufacture of illicit or illegal drugs. The college will not tolerate any use, possession, distribution, or manufacture of illicit or illegal drugs by any student on campus, off campus, or while attending any school sponsored event. Students violating this policy will face disciplinary sanctions up to and including possible dismissal. Alternative sanctions may include disciplinary probation and restrictions, attendance in a drug rehabilitation program and periodic drug testing. Student conduct that violates local, state, or federal laws, whether or not it results in the arrest and/or conviction of the student (for example driving under the influence, public intoxication, vandalism, etc.) associated with the use, possession, distribution, or manufacture of illicit or illegal drugs will be included by the college in the assessment of disciplinary sanctions. Finally, Williamson considers any synthetic form of an illegal drug, regardless of its current legal status, to be an illegal drug and will be treated as such in alignment with this policy.

Drug Testing Policy

The college reserves the right to require a drug test from a student where there is a reasonable suspicion that the college's zero tolerance policy has been violated. Williamson also conducts periodic random drug testing of its student body. A urine test is typically used by the college, although a hair follicle test may be administered on a case-by-case basis as warranted or requested by the student. Failure to submit to a drug test is a violation of the college's disciplinary policy and may result in dismissal. Students who are selected will be tested immediately or as soon as possible following notification. A student who admits to drug use after being informed of the test will still be tested. Any attempt by the student to tamper with or invalidate a testing sample will be considered a failed test.

Legal Sanctions for Use, Possession, or Distribution of Illicit or Illegal Drugs and Alcohol

Under Pennsylvania State law, if an individual is under 21 and possesses a fake ID or falsifies an ID card to misrepresent his age, or purchase, attempt to purchase, use, or transport alcoholic beverages, he will lose his driver's license on the first conviction.

- First offense - 90-day mandatory suspension
- Second Offense - 1-year suspension
- Third Offense – 2-year suspension

Individuals found guilty will pay a fine of up to $500. Parents will be notified and, if the courts stipulate, the individual will be required to complete an alcohol education or counseling program. Moreover, it is unlawful for any person to sell, furnish, or give any liquor, or permit any liquor, to be sold, furnished, or given to any person visibly intoxicated or to any minors (persons less than 21 years of age). Violation carries a minimum $1,000 fine for the first offense and a $2,500 fine for second and further offenses. Maximum penalty: $2,500 and one-year imprisonment.

Federal and state law forbids the sale, manufacture, possession, or consumption of illegal drugs or narcotics, such as cocaine, barbiturates, hallucinogens, or other illegal, addictive substances. The sale, use, possession, or manufacture of such illegal substances is strictly forbidden. The sale, use, or possession of drug paraphernalia such as rolling papers, bongs, pipes, and the like are also forbidden on campus. Infraction of these laws constitutes a major violation of campus policy.

A violation of Pennsylvania's Controlled Substance, Drug Device, and Cosmetic Act calls for widely varying penalties depending on the nature of the offense (e.g., sale versus possession), the type of drug involved, the quantity of drugs involved and whether the individual's offense is a first, second, third, or subsequent offense. A violation of the several federal statutes governing the sale and possession of drugs also calls for widely varying penalties.

Federal law makes it unlawful for any person to manufacture, distribute, create, or dispense or possess with the intent to manufacture, distribute, or dispense controlled substances. Title 21 of United States Code provides terms of imprisonment and fines for violations of this Act. The nature of the offense and whether the person has committed any previous unlawful acts under the statute will determine the term of imprisonment as well as the amount of any fine.

Health Risks Associated with the Use of Illicit or Illegal Drugs or Alcohol

Medical studies indicate that users of illicit or illegal drugs or alcohol can suffer from a wide range of medical and psychological problems. Those problems can be as mild as depression or as severe as permanent brain damage, or death. At the very least, use of these substances can impair one's ability to learn and function in society. This promotes poor application to academics as shown by poor study habits, lack of concentration, and loss of self-esteem. Additional information on the health risks associated with the use of alcohol and illicit or illegal drugs is available through the campus health clinic, or online through the college's website, or the Higher Education Center for Alcohol and Drug Misuse Prevention and Recovery (https://hecaod.osu.edu/).

Sexual Misconduct Policy – Title IX

Williamson College of the Trades does not discriminate on the basis of sex and prohibits sex discrimination in any educational program or activity that it operates, as required by Title IX and its regulations, including employment.

Inquiries about Title IX may be referred to Williamson's Title IX Coordinator, the U.S. Department of Education's Office for Civil Rights (https://ocrcas.ed.gov/contact-ocr), or both. Williamson's Title IX Coordinator is Provost Todd Zachary, Ed.D. (Williamson College of the Trades, 106 S. New Middletown Road, Media, PA 19063; phone: 610-566-1776, ext. 252; cell: 267-240-7116; email: tzachary@williamson.edu).

Williamson's nondiscriminatory policy and grievance procedures are available through the college's Student Management System, the college's website (www.williamson.edu), or on request upon contacting the college's Title IX Coordinator.

To report information on conduct that may constitute sex discrimination or make a complaint of sex discrimination under Title IX, please contact Williamson's Title IX Coordinator. Reports can also be made online through the college's website (www.williamson.edu) using the "Make a Report" feature at the top of the website, or directly though the college's anonymous reporting application.

Williamson is dedicated to ensuring a safe and inclusive campus climate for our students and employees. Through its policies and procedures, the college ensures compliance with Title IX. Williamson has adopted Title IX grievance procedures that provide for the prompt and equitable resolution of complaints made by students, employees, or other individuals who are participating or attempting to participate in its education program or activity, or by the Title IX Coordinator.

Student Hazing

Williamson College of the Trades is fully committed to a safe and secure learning environment for all of its students and is fully compliant with both the Federal Stop Campus Hazing Act (SCHA) and the Pennsylvania Timothy J. Piazza Antihazing Law, 18 Pa. C.S. § 2801on hazing. Hazing, in any form, is strictly prohibited at Williamson. Students should not tolerate such behavior, as it does not promote the core values and trust upon which Williamson was founded. Permission or approval by a person being hazed is not a defense.

Individuals and organizations found in violation of these policies will be held accountable. Students should report any concerns or incidents of hazing immediately to members of the administration, faculty, or staff. In compliance with the Federal Stop Campus Hazing Act (SCHA) and the Pennsylvania Timothy J. Piazza Antihazing Law, 18 Pa. C.S. § 2801, the college biannually (May 1st and December 1st of each calendar year) publishes a Campus Hazing Transparency Report. The report summarizes the previous six months of activity on campus. The report is published by the Office of the Provost and is available on the college's website or by request.

Code of Student Conduct - Statement on Hazing

Hazing is absolutely prohibited.

At Williamson, the term "hazing" means any action or situation that:

- recklessly or intentionally endangers the mental or physical health or safety of an individual, or
- destroys or removes public or private property for the purpose of initiation or admission into or affiliation with, or as a condition for continued membership in, any organization or program operating either (1) as organization or group recognized by the college or (2) operating independently of such college recognition, that is, without college approval.

The term shall include, but not be limited to:

- any brutality of a physical nature, such as whipping, beating, branding, forced calisthenics
- exposure to the elements
- forced consumption of any food, liquor, drug or other substance
- any other forced physical activity which could adversely affect the physical health and safety of the individual, and shall include any activity which would subject the individual to extreme mental stress, such as sleep deprivation
- forced exclusion from social contact
- forced conduct, which is indecent, obscene, or could result in extreme embarrassment, or
- any other forced activity which could adversely affect the mental health or dignity of the individual, or any willful destruction or removal of public or private property.

For purposes of this Code, any activity as described in this definition upon which the initiation or admission into or affiliation with or continued membership in an organization is directly or indirectly conditioned shall be presumed to be "forced" activity, the willingness of an individual to participate in such activity notwithstanding.

In the case of students, sanctions may range from probation to dismissal. For employees of the college, sanctions may range from probation to employment termination. In the case of organizations or programs, sanctions may range from suspension to removal of the organization or program from the college. The prohibition against hazing applies to acts conducted on or off campus whenever such acts are deemed by the college to constitute hazing.

Student Complaint Procedure

The college strives to resolve student concerns in a fair and timely manner. Students desiring to submit a comment or concern should refer to the Student Complaint Procedure section of the Student Handbook for additional information.

As an accredited member of Middle States Commission on Higher Education (MSCHE), Williamson adheres to its complaint procedure, which may be found at https://www.msche.org/complaints/.

General information regarding the Pennsylvania Department of Education complaint process can be found on its website under Complaint Procedures (https://www.pa.gov/agencies/education/programs-and-services/instruction/postsecondary-and-adult-education/students-complaints) or by contacting the Division of Higher Education, Access, and Equity; Pennsylvania Department of Education; 607 South Drive, 3rd Floor; Harrisburg, PA 17120; Phone: 717-783-6786; or email at RA-HigherEducation@pa.gov.

The Family Educational Rights and Privacy Act (FERPA)

FERPA is the federal law that governs the rights of students and institutional responsibilities with respect to student records. If you have any questions regarding any of the information contained herein, please refer to the college's FERPA Fact Sheet available on the college's website (https://www.williamson.edu) or contact the Office of the Provost or college registrar.

What is FERPA?

The Family Educational Rights and Privacy Act of 1974, commonly referred to as FERPA or the Buckley amendment, is a federal law designed to protect the privacy of a student's educational record. FERPA applies to all educational agencies or institutions that receive federal funding for any program administered by the Secretary of Education. FERPA also applies to private entities that contract to perform services for the college that it would otherwise undertake to perform on its own; in such cases, the private entity must observe the same FERPA protections applicable to the college. FERPA grants adult students (18 and older) the following rights:

- The right to inspect and review their educational records
- The right to seek the amendment of their educational records
- The right to consent to the disclosure of their educational records
- The right to obtain a copy of their school's Student Records Policy

- The right to file a complaint with the FERPA Office in Washington, D.C.

FERPA Basics

- With only a few exceptions, student educational records are considered confidential and may not be released without the written consent of the student
- Faculty or staff members have a responsibility to protect educational records in their possession. Additionally, faculty or staff members may only access information that is needed for legitimate completion of their responsibilities as a college employee.

What is an Education Record?

"Education Records" include any information or data recorded in any medium, including but not limited to, handwriting, print, tapes, film, email, microfilm, and microfiche, which is directly related to a student and maintained by the college or by a person acting for the college.

Examples of an Education Record:

- Admissions information for students who are accepted and enrolled
- Biographical information including date and place of birth, gender, nationality, information about race and ethnicity, and identification photographs
- Grades, test scores, evaluations, courses taken, academic specialization and activities, and official communications regarding a student's status
- Course work including papers and exams, class schedules, as well as written, email or recorded communications that are part of the academic process
- Disciplinary records
- Students' financial and financial aid records
- Internship program records

Access to Student Education Records

In general, the college will not release "personally identifiable information" from a student's education record without the student's prior written consent provided through a Student Consent Form, available at the college's website (https://www.williamson.edu) or the Office of the Registrar and kept on file with the registrar. However, please note FERPA allows disclosure without student consent under the following circumstances:

- School employees who have a "legitimate educational interest" in the records in order to perform their duties
- Other schools where a student seeks to enroll or is enrolled
- Accrediting organizations
- Organizations doing certain studies for or on behalf of the college
- Appropriate parties to determine eligibility, amount or conditions of financial aid, or to enforce the terms and conditions of aid
- Parents of a "dependent student," as defined in the Internal Revenue Code.
- Certain government officials of the U. S. Department of Education, the Comptroller General, and state and local educational authorities, in connection with an audit, authorized representatives of the U. S. Attorney General for law enforcement purposes or state or federally supported education programs.
- Individuals who have obtained a judicial order or subpoena
- School officials who have a need to know concerning disciplinary action taken against a student.
- Appropriate parties who need to know in cases of health and safety emergencies when necessary to protect the student and/or others.
- An alleged victim of a crime of violence or non-forcible sexual offense has a right to learn the results of a disciplinary proceeding conducted by the institution against the alleged perpetrator of the crime.
- Information regarding any violation of college policy or state, federal or local law, governing the use or possession of alcohol or a controlled substance may be released to the parents or legal guardian of a student under the age of 21.
- Those requesting "directory information" on a student provided the student has not requested his or her information be withheld.

Directory Information

Williamson designates the following items as directory information: student name, dates of attendance at Williamson, program/field of study, degree received (including dates), participating in officially recognized college activities, academic or other college awards or honors received, weight and height of student on athletic teams, students' electronic mail addresses, enrollment status, and hometown (city and state).

Because directory information is considered public, the college may release such information to anyone without the student's consent provided that the student has not requested a directory restriction.

Restricting Release of Information

The college may disclose to third parties any student information that it has designated as directory information, provided that the student has not restricted such information from disclosure. Students must request a restriction in writing to the registrar. Students who wish to restrict their names should realize that their names will not appear in the commencement bulletin and other college publications.

Filing a Complaint

Students have a right to file a complaint with the U.S. Department of Education concerning alleged failures by the college to comply with

the requirements of FERPA. More information about filing a FERPA complaint and the official complaint form may be found at https://studentprivacy.ed.gov/file-a-complaint. Complaint forms may be mailed to U.S. Department of Education, Student Privacy Policy Office, 400 Maryland Avenue, SW, Washington, DC 20202-8520 or emailed to FERPA.Complaints@ed.gov.

Safeguarding Confidential Information

Williamson College of the Trades is committed to safeguarding confidential information for its students and employees. College policy implements administrative, technical, and physical safeguards designed to:

- Ensure the security of any confidential information in the college's custody in all forms, no matter if that information is contained electronically, written, or in any other format.
- Protect confidential information against any threats or hazards of integrity, unauthorized access, or unauthorized use.

Definitions

Confidential Information

Confidential information means any information not exempted in specific legislation and identified as personal, sensitive, or confidential such as personally identifiable information, individually identifiable health information, education records, and non-public information as specified in all applicable federal or state laws, plus Williamson College policies. Confidential information includes, but is not limited to, the following examples:

- Social Security number
- Physical description
- Home address
- Home telephone number
- Ethnicity
- Gender
- Education (except student records which are exempted by FERPA)
- Financial matters
- Performance evaluations
- Verbal or written statements made by or attributed to the individual
- Medical and employment history
- Driver's license number
- Account number, e.g., identification number, credit or debit card number in combination with any required security code, access code, or password that would permit access to an individual's financial account.

Confidential information may include individually identifiable health information. This includes any information, including demographic information collected from an individual, created or received by a health care provider, health plan, employer, or health care clearinghouse. This includes information that relates to the past, present, or future physical or mental health or condition of an individual, the provision of health care to the individual, or the identification of the individual.

In addition, electronic confidential information is defined as any electronic format which includes an individual's first name or first initial and last name or education in combination with any one or more of the following data elements, when either the individual's name or the data elements are not encrypted:

- Social Security number
- Driver's license number
- Account number, e.g., identification number, credit or debit card number in combination with any required security code, access code, or password that would permit access to an individual's financial account.

Unauthorized Disclosure

Unauthorized disclosure means to disclose, release, transfer, disseminate, or otherwise communicate all or any part of any record orally, in writing, or by electronic or any other means to any person or entity.

College Practices in Safeguarding Confidential Information

All confidential information must be cared for with the appropriate level of physical and electronic (logical) security. When working with confidential information the college takes on the custodial responsibilities for that information. Thus each person who accesses this information also has the responsibility to:

- Identify
- Protect
- Communicate
- Maintain

These terms are defined below. Note: These lists are not exhaustive. Each of them is provided to serve as examples. As technology develops, each of these lists should be expanded to cover additional techniques and devices as appropriate.

Identify

Identify and inventory where confidential information is stored, processed, or transmitted. Here are some examples:

Confidential Information

- Emails
- Electronic documents
- Printed information (paper)

Computer Information Systems

- Desktop computers
- Laptops / notebook computers
- Mobile devices

Local Storage Device

- Hard drive
- Internal memory sticks/cards

Removable Media

- External hard drives
- CD or DVD (optical)
- USB-devices

Remote Storage Device

- Shared/mapped drive
- Network Attached Storage (NAS)
- Storage Attached Network (SAN)

Protect

Protect confidential information against unauthorized access, unauthorized use, loss, or damage. The college maintains a custodial partnership with each individual who accesses its network. Following specific policies and procedures in exercising this partnership is the responsibility of both the institution and individual to include:

The Individual:

- Do not share or disclose personal authentication credentials, such as user-IDs and passwords or other forms of electronic authentication with other individuals.
- Do not use personal credentials for authentication to provide other individuals with access to any information systems containing confidential information.
- Do not leave computer equipment or portable storage devices unattended.
- Use caution when accessing email, and do not trust any unexpected emails. Never open an attachment without first verifying its type and checking it with an antivirus program. If in doubt, delete it, and/or contact the sender first.
- Position monitors and printers so that others cannot see or obtain confidential or sensitive data.
- Log out, shut down, or lock the system when leaving your computer unattended at any time.
- Keep portable equipment and storage devices such as CD, DVD, USB drives, or other removable storage media in an appropriately access limited location.

The College:

- Maintains up to date, and installs all appropriate, security software updates in all computer workstations and laptops and software applications.
- Installs and maintains antivirus software in all computer workstations and laptops and sets them to auto-update to install the latest antivirus signatures.
- Uses boot-up (BIOS) passwords for appropriate computer systems and sets strong authentication for all user accounts, including any accounts with administrative rights.
- Enables screen savers with authentication (locking passwords) for all computer systems.
- Uses physical safeguards (keys, cipher locks, passwords, etc.), to secure confidential information, which are changed regularly, including every time someone who formerly had authorized access either leaves college employment, no longer has job requirements which require access, or a key securing such access is lost, stolen, or unaccounted for.

Communicate

Individuals accessing the college's network have a responsibility to communicate with care to include

- Promptly report any possible unauthorized access, use, or loss of information or an information system to your immediate supervisor.
- Never send confidential information using non-secure applications such as IM, chat programs, or regular email.
- Never send sensitive information to email accounts other than on-campus accounts. Use an authenticated method of distribution when on-campus accounts are not available.
- Always use an authenticated and approved protocol for remote communication when accessing critical servers or resources containing personal or confidential information. Use the campus VPN when accessing any critical servers such as CMS or SIS from off campus.
- Get appropriate authorization before taking college equipment off site.

Maintain

The college and individual must work in partnership to

- Maintain confidentiality, integrity, and keep access measures up-to-date.
- Securely dispose of unnecessary confidential information in an approved manner.
- Remove any confidential and private information that is no longer needed. This will minimize the liability in case the computer becomes infected or compromised.
- Ensure that confidential, sensitive, or personal data is properly cleansed from internal disks or removable media prior to disposal or transfer to others. Seek authoritative advice on disposing of equipment and data.

Withdrawal from the College

Official Withdrawal

Students are officially withdrawn from Williamson College of the Trades either through dismissal (academic or disciplinary) or voluntary withdrawal.

Following completion of the withdrawal process, students must remove personal belongings from the college within twenty-four hours or the college may dispose of such items.

Unofficial Withdrawal

If a student is absent without an approved excuse from Williamson for ten consecutive academic days, he is unofficially withdrawn. In such cases, the student forfeits his Enrollment Deposit. The Student Affairs Office will complete the applicable items on the Student Withdrawal Checklist, including the student's last academic attendance day and will notify the appropriate offices, to include the Financial Aid Office, of the student's withdrawal.

Students unofficially withdrawn must remove their personal belongings from the college within five business days of the student withdrawal date or the college may dispose of such items.

Withdrawal Process

Students who are officially withdrawn must complete the Student Withdrawal Checklist, obtained from the Office of Student Affairs, prior to departing campus. The checklist includes a number of interviews:

- Interview with the President (or designated representative)
- Interview with the Vice President of Student Affairs (or designated representative)
- Interview with the Financial Aid Office

In addition, the student will meet with a variety of departments and offices on campus to return college equipment and property and complete his dormitory exit. Once complete, the student returns the checklist to the Vice President of Student Affairs, who completes the final administrator review and establishes the official withdrawal date. Following completion of the checklist, the Office of Student Affairs notifies applicable college departments, including the Financial Aid Office, of the student's official withdrawal and established withdrawal date.

Information Management and Technology

Copyright Infringement/Peer-to-Peer File Sharing Policies

Copyright Protected Material

The college's Copyright and Peer-to-Peer Sharing policy is to establish guidelines for faculty, staff, and students whose work requires the reproduction, use, display, or distribution of any copyrighted or licensed material. The guidelines within the college's policies affirm the proper use of such material in compliance with the Copyright Act, Title 17, United States Code that governs reproductions of copyrighted material. Williamson does not condone or support any form of copyright infringement.

Compliance with Copyright Laws

The copyright law is in place to foster a balance between the creation and dissemination of information, so individuals are encouraged to make use of copyrighted information in a reasonable and lawful manner. It is understood that during the course of their work, research, and/or instruction, faculty, staff and students of the college may need to reproduce copyrighted information for use or distribution of that information.

The Fair Use Doctrine: There are certain circumstances under the Copyright Act where it is permissible to reproduce or display copyrighted works without the permission of the copyright owner. These circumstances are governed by the "Fair Use" doctrine. The following factors are considered when determining if duplication or use of copyrighted material by a third party constitutes a fair use:

- The Purpose and Character of the Use, including whether the use is of a commercial nature or is for Nonprofit Educational Purposes: A nonprofit educational purpose or noncommercial use generally allows for the fair use of the copyright material.
- The Nature of the Copyrighted Work generally falls into the categories of published or unpublished, fact or fiction. Published factual works, such as books, dictionaries, or other factual works, by their nature more readily support a finding of fair use than do unpublished works or non-factual, fictional, creative works.
- Amount and Substantiality of the Portion Used in Relation to the Copyrighted Work as a Whole: If the portion of the work copied or used in relation to the entire work is quantitatively and qualitatively insignificant a case can be made for fair use. Copying of a minor portion of a work however may be found to in violation if the portion constitutes the essence or critical part of the copied work. In such cases, users should post links to articles and materials whenever possible rather than duplicating complete works.
- The Effect of the Use upon the Potential Market for or Value of the Copyrighted Work: This factor is considered the most important element under the fair use analysis. Duplication or use of a copyrighted work that is not detrimental to and does not diminish the potential market for the work will support the fair use policy.

Fair Use Guidelines:

Audiovisuals

Permitted Uses: Legally produced and obtained audiovisual works may be used in nonprofit educational institutions under the following conditions:

- The work must be part of the educational program;
- The work must be shown by a student, instructor, or guest lecturer;
- The work must be shown in a classroom or other school location devoted to instruction;
- The work must be shown only to students in the class, that is, no guest viewing the work for entertainment or enrichment.

Prohibited Use of Audiovisuals: Use is prohibited in nonprofit educational institutions when:

- The work is used for entertainment, recreation, or even cultural or intellectual value unrelated to teaching activities;
- The work is transmitted by radio or television (this includes closed circuit) from an outside location;
- The work is shown in an auditorium before an audience not confined to students.

Off-Air Taping

Permitted Uses: Off-air taping (tape or other electronic means) has specific regulations that permit classroom use:

- The material may be retained for 45 days from the airing, but then must be erased;
- The material may be shown in class only during the first ten days after the broadcast. (Some PBS programs can only be used and retained for seven days);
- The material may be shown to students no more than two times during a ten-day period. After the ten-day period, only teachers may view the material;
- The contents may not be altered or combined to form anthologies but need not be shown in their entirety.

Rental sources (e.g. borrowed from the library may be shown in class. Libraries have the right to loan, sell, or otherwise dispose of legally obtained tapes. The "for home use only" labels do not prevent library or classroom use of legal tapes. Backup tapes are only permitted when the original is deteriorating and is no longer available on the market.

Photocopying

Permitted Uses: Teachers preparing to teach a class may make a single copy of:

- A book chapter;
- An article;
- A short story, essay, or short poem;
- A chart, graph, diagram, cartoon, drawing, or picture.

Teachers may duplicate enough copies to provide one copy for each student in a course, as long as each copy includes a notice of copyright and as long as they meet the following three tests:

- Brevity. For poetry, the suggested maximum is 250 words. For prose, the guidelines offer two different limitations. Educators may copy any complete story, essay, or article under 2,500 words or excerpts of not more than 1,000 words or 10% of the text. For illustrations, the guidelines suggest no more than one chart, graph, diagram, drawing, cartoon, or picture per book or periodical issue;
- Spontaneity. The "inspiration and decision to use the work" must occur so soon prior to classroom use that it would not be feasible to write for and receive permission from the publisher to duplicate the material. It is also imperative that the copying occur at the request of the teacher, not at the directive of an administrator or other "higher authority";
- Cumulative Effort. Generally, only one copy may be made of a short poem, article, story or essay. No more than three of these items may be from the same collective work or periodical volume during one class term. The most limiting restriction further specifies no more than a total of nine instances of such multiple copying for one course during one class term. Finally, all multiple copying of a particular work is limited to one course; in other words, copying a work to be used in several courses is not likely to be considered a fair use of the material.

Prohibited Copying

- Educators are not to create, through photocopying, their own anthologies, compilations or collective works whether brought together in one collection or reproduced and used separately.
- Copying must not substitute for the purchase of books, periodicals, or reprints; this prohibition especially applies to the duplication of "consumable" materials such as workbooks, test booklets and standardized tests.
- Students must not be charged more than the actual cost of copying the material.
- A teacher must not duplicate the same item from one term to another.

File Sharing and Peer-to-Peer Software Programs

Williamson College of the Trades prohibits the installation and use of peer-to-peer file-sharing programs that violate copyright material on computers using the college network. Users will be considered in violation of this policy if their internet traffic is identifiable as using a prohibited peer-to-peer file sharing program or protocols. The college reserves the right to suspend or terminate network access to any campus user if the violation is deemed severe. Repeat or severe violations are also subject to appropriate corrective action and may be reported to appropriate authorities for criminal or civil prosecution.

Software
The fair use doctrine generally does not apply to computer software. Rather, the terms of the software license accompanying the software will dictate the usage terms. Thus, unless the software has been placed in the public domain deliberately by its creator, all software should be assumed to be protected by copyright law.

Possessing software for which an individual does not own a license is a violation of the Copyright Act, and may be subject to disciplinary action, to include dismissal for students or termination for employees. In addition to application software and operating systems, federal copyright protection also extends to the data files created for use with or by these systems. Unauthorized creation, copying and distribution of these materials are violations of the federal copyright statute, unless they can be construed as fair use.

TEACH Act
The Technology, Education, and Copyright Harmonization Act (TEACH Act) (Section 110(2) of the U.S. copyright law) is a copyright exemption that addresses teaching conducted through digital transmission.

Under the TEACH Act, faculty may use the following copyrighted materials when teaching a class through a digital transmission:

- Performances of nondramatic literary works;
- Performances of nondramatic musical works;
- Performances of any other work, including dramatic works and audiovisual works, but only in "reasonable and limited portions";
- Displays of any work "in an amount comparable to that which is typically displayed in the course of a live classroom session."

When using the copyrighted materials listed above in a digital transmission, faculty have the following obligations under the TEACH Act:

- The performance or display is made by or under the supervision of an instructor;
- The use is limited to performances and displays. The TEACH Act does not apply to materials that are for students' independent use and retention, such as textbooks or other readings;
- The work is part of systematic mediated instructional activities;
- The transmission must be made solely for and limited to students officially enrolled in the course;
- Only lawfully acquired may be used;
- The instructor should use reasonable efforts to prevent copying and retention of the work (e.g., streaming for video; thumbnails, watermarks and disabling right click copy function for images);
- The materials to be used should not include those primarily marketed for the purposes of distance education (i.e. an electronic textbook or a multimedia tutorial);
- A digital copy may be made from an analog copy when no digital version is available or when the digital version is technologically protected;
- The work must carry a notice to students that the works are copyrighted.

Digital Millennium Copyright Act
Williamson complies with all provisions of the Digital Millennium Copyright Act (DMCA). Any use of the Williamson network, email system, or website to transfer copyrighted material including, but not limited to, software, text, images, audio, and video is strictly prohibited. Federal copyright law applies to all forms of information, including electronic communications. Users should be aware that copyright infringement includes the unauthorized copying, displaying, and/or distributing of copyrighted material. All such works, including those available electronically, should be considered protected by copyright law unless specifically stated otherwise.

Anyone using college IT resources to commit acts of copyright infringement will be subject to the college's due process. Acts of piracy are violations of state and federal laws, and as such, may result in criminal charges. In accordance with the DMCA, the college has designated the Provost and Vice President of Academic Affairs as the principal officers to receive and respond to reports of alleged copyright infringement. This designation will be listed on the Williamson web site.

The Digital Millennium Copyright Act specifies that all infringement claims must be in writing (either on paper or electronic mail) and must include the following elements:

- A physical or electronic signature
- Description of the work claimed to be infringed
- Description of the allegedly infringing work and the location on the Williamson network
- Contact information for the complaining party
- A statement that the complaining party has a good faith belief that the use of the material in the manner complained of is not authorized by the copyright owner or law
- A statement that the information contained in the notification is accurate, and under penalty of perjury, that the complaining party is authorized to act on behalf of the copyright owner.

More information on United States Copyright Laws is available through the U.S. Copyright Office at www.copyright.gov.

Information Technology

Williamson's Information Technology Policy promotes the efficient, ethical, and lawful use of the college's information technology (IT) resources. The college's computing systems, networks, and associated facilities are intended to support its mission and to enhance the educational environment of its students. Any use deemed inconsistent with this mission will be considered a violation of this policy.

Williamson's IT policy applies to anyone who uses the college's IT resources. IT resources include, but are not limited to, computer hardware and software; mobile communication devices; telephone and data networks; and electronically stored data. Use of these resources includes access from off campus and on campus, as well as access from privately owned computers and electronic devices.

Network resources refer to all aspects of the college's owned or leased equipment, including, computers, printers, scanners, and other peripherals, as well as email, Internet services, servers, network files and folders, and all other technology related equipment and services. The college's IT policies and procedures apply to any use of the institution's network resources, whether this access occurs while on or off campus.

Access to and use of Williamson's IT resources and the Internet must comply with all federal laws, the laws of the Commonwealth of Pennsylvania, and the policies and procedures of the college. By use of the college's IT resources (including, but not limited to, computers, network, phones, tablets, etc.), all users agree to the rules, regulations, and procedures outlined within the college's policy.

Williamson's IT Policy is outlined within the Student Information Technology Handbook, available to all students through the Student Information System (Blackbaud) portal. For employees, the college IT policy is outlined within the Employee Handbook, Appendix 1. The Employee Handbook is available to all employees through the college's Blackbaud portal.

Academics

Academic Policies

Overview

Students are taught by an experienced, dedicated faculty who are devoted to sharing their trade, technical, and academic expertise. Enrollment is limited to approximately 130 new students each year to maintain a sound student-faculty ratio. The constant interaction in class and shop and on the campus enables students to form close professional relationships with their fellow students and instructors, friendships that often last a lifetime.

Upon entrance, all students enroll in an Associate in Specialized Technology Degree program in one of six program areas: Construction Technology (with a Carpentry, Electrical, or Masonry emphasis); Landscape Construction and Management; Machine Tool Technology; or Power Plant Technology. Classes are small in size; a typical class has 18 students.

Student Rights and Responsibilities

Williamson College of the Trades is a trust, authorized within the Commonwealth of Pennsylvania as a postsecondary institution, with authority vested in its Board of Trustees. Appropriate authority, then, is specifically delegated by the Board to the President of Williamson, and through the President to other members of the administration and faculty.

Williamson is a comprehensive teaching institution. As members of the college learning community, students are encouraged to develop the capacity for critical judgment and to engage in sustained and independent study. Free inquiry and free expression in an environment of individual and group responsibility are essential to any educational community.

The following guidelines have been developed to preserve and protect that community:

- Students are responsible for thoroughly learning the content of any course of study, but they should be free to take reasonable exception to the information offered, and to reserve judgment about matters of opinion.
- Students should be evaluated by their instructors solely on the basis of their course-related performance.
- Students should not be subject to prejudiced or capricious evaluation by a faculty member or supervisor.
- Protection against improper disclosure of information concerning a student is a serious professional obligation of faculty members and administrative staff that must be balanced with their other obligations to the individual student, the college, and society.
- Students are free to examine and discuss any issue and to express opinions, publicly or privately, and are free to support causes by orderly means that do not disrupt the regular and essential operations of the college. Any such expression must comply with college guidelines governing free expression activities. The participation by any student in any unlawful or disruptive activity that fails to comply with college guidelines or disrupts or interferes with the programs, functions, or conduct of the college is a serious offense against the college's conduct code.
- As constituents of the academic community, students are free to express their views on institutional policy and on matters of general interest to the student body, provided they do so in a manner that is lawful, organized, and complies with reasonable expectations of respectful behavior.
- In order to promote security on campus, individuals must assume responsibilities for their own safety and security and for those of others. Students share this responsibility by carefully following all college and community rules and regulations.
- All members of the Williamson community share the responsibility for maintaining a clean environment.
- For the general welfare of the college, all students have a responsibility to exercise reasonable care in the use of personal or school property.
- Academic study requires a reasonably quiet environment. Community living requires that all members of the Williamson community respect one another and each person's property and share a responsibility for maintaining a clean and safe environment.

Students with Disabilities/Student Accessibility Services

The Office of Academic Affairs manages the college's student assistance program, designed to aid students with a qualified disability to meet their academic goals. The college complies with U.S. Federal Code Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. It must be noted that the regularity requirements and process regarding a student academic accommodation is different for higher education than in elementary and secondary education.

Consideration for granting a student accommodation is done on a case-by-case basis unique to the individual student need. While the college strives to support each student, it must be noted, in alignment with federal and state legislation, that it reserves the right not to grant an accommodation or adjustment that would fundamentally alter the nature of a service, program, or activity, or that would result in an undue financial or administrative burden.

Students can make a request for an academic accommodation pertaining to a learning, psychological, and/or physical disability at the time of acceptance or any time thereafter. The accommodation request must be **made by the student** in writing, either hardcopy or electronically, to the Office of Academic Affairs. Requests from others (such as family, guardians, or teachers) are not permitted. Please note that other forms of contact such as phone calls or disclosures to other members of the college staff or faculty do not constitute a request for accommodations. Students requesting an accommodation are responsible for submitting appropriate documentation in alignment with the procedures listed below.

Accommodation requests are assessed on a case-by-case basis by the Office of Academic Affairs. An accommodation is based on each student's individual needs and the college's ability to support the accommodation. If a request involves more than a basic academic accommodation, the Vice President of Academic Affairs will notify the college Provost, who may elect to convene a review committee in alignment with the college's Student Accommodation Support policy. A copy of this policy is available on the college's Student Management System (Blackbaud) or upon request to the Office of the Provost.

Documentation Requirements

All documentation in support of a requested accommodation should be reflective of the current, functional impact of the condition or impairment. The college reserves the right to require, at the requesting student's expense, a current test or evaluation by an appropriate professional, such as a medical doctor, psychologist, or other qualified diagnostician supporting the requested accommodation. Additionally, updated documentation may be requested, in some circumstances, where documentation is outdated or when ongoing treatment is being provided. Students should also include any Individual Education Plans (IEP) generated by other schools if available. Please note, the notification of a disability and providing documentation is the responsibility of the student and not the college.

Additional Resources

- LD online (www.ldonline.org) provides information for students with learning disabilities
- Readings (https://learningally.org/Solutions-for-Home/College-Adults/ Resources) offer information for the blind and dyslexic
- The U.S. Department of Education Office for Civil Rights contains information about the rights and responsibilities for students with disabilities (www2.ed.gov/about/offices/list/ocr/transition.html)

Credit Hours

All programs at Williamson require full-time attendance for three school years. There are two, 16-week semesters each year and the normal attendance schedule is 39 hours per week. The college's trade/technical programs require 116 credits on average. Lecture (academic) classes meet approximately the same number of hours each week as the credits they are assigned. Applied education and shop (technical) courses meet approximately two to three times the number of hours each week as the credits they are assigned. Specific credit hours are listed by academic degree program in the Programs section of the catalog.

The Grading System

Williamson uses a traditional grading system based on the 4-point scale, including plus and minus marks. Midterm and final grades are issued using the following scale:

Grade	Grade Points
A (Excellent)	4.00
A-	3.66
B+	3.33
B (Good)	3.00
B-	2.66
C+	2.33
C (Satisfactory)	2.00
C-	1.66
D+	1.33
D (Poor)	1.00
D-	0.66
F (Failure)	0.00
P (Pass)*	
I (Incomplete) *	

* A grade of Pass or Incomplete does not affect the calculation of grade point averages. If a student receives a grade of Incomplete for a class, he has one semester following the conclusion of that class to satisfy the requirements for that class, at which point, if he fails to remove his Incomplete, his grade reverts to a failure. Students who withdraw from the college before the official end of the semester receive a grade of W for all courses in their final semester of attendance (see Academic Progress Standards, Sec. E).

Grade Point Requirements

The college has established the following cumulative grade point average (GPA) standards:

At the end of	Cumulative GPA
1st Semester	1.5
2nd Semester	1.7
3rd Semester	1.9
4th Semester	2.0
5th Semester	2.0

At the end of	Cumulative GPA
6th Semester	2.0

If a student's cumulative GPA falls below the standard, he will be required to meet or exceed the cumulative GPA standard for all ensuing semesters at the college. Failure to do so will result in enrollment termination. If a student fails to meet the college's cumulative GPA standard in the last semester of his senior year, he cannot graduate from the college. See the college's Student Academic Progress Policy for more details.

Course Failures

Students are required to pass all courses designated for their assigned curriculum. If a student fails a non-trade course, he may not retake the course at Williamson but must find a substitute course at another institution. (See Scholarship Cancellation and Appeal section regarding trade course failures.) The student must then submit a Course Substitution proposal for approval to the Vice President of Academic Affairs. If approved, the student must successfully complete the proposed course, with a grade of "C" or higher, within three semesters following the semester in which the failure occurred (summer session is counted as a semester). Failure to successfully complete the substitute course within the specified time limit will result in the student being disenrolled from Williamson. The student's original failing grade will remain on his transcript and the substitute course will be noted on the transcript. The initial grade will be used in calculating his cumulative grade point average. Even though the student has passed the course at another institution, the course still counts as a failure. Any student who fails three courses over the three-year program will have his scholarship cancelled as explained in the Scholarship Cancellation and Appeal section.

Academic Probation

After a student completes at least 20% of the assignments for a class (quizzes, tests, homework, etc.), if he has an average below 70%, his instructor may place him on academic probation, requiring the student to attend evening study hall. A student remains on probation until his grade improves above 70%, at which point he will be removed from probation. If a student is on Academic Probation for more than five consecutive weeks or is on probation for two classes simultaneously for more than two consecutive weeks each, the student is placed on Strict Academic Probation. For the complete Academic Probation policy, please consult the *Student Handbook*.

Scholarship Cancellation and Appeal

A student will have his Williamson Scholarship cancelled if he does not meet the minimum cumulative grade point average, fails three non-trade courses over his three-year program, or fails either a trade theory or trade skills course. To appeal the disenrollment, a student must complete the Financial Aid Satisfactory Academic Progress Appeal Form (available on the Financial Aid page at the college's website), attach all required documentation, and submit the appeal within 10 calendar days of the notice of academic disenrollment date to the Office of Academic Affairs. The Scholastic Standards Committee, composed of the vice president of Academic Affairs/CAO, the registrar, and the director of the student's trade program, will review the appeal. The committee may confirm the scholarship cancellation/disenrollment or allow continuation of enrollment with specified conditions.

Students may submit a letter of appeal on the decision of the committee to the college president within five calendar days of the committee's decision. The president's decision will be considered final.

If a student's appeal is approved, in order to continue receiving financial aid, the student must develop (with the vice president of Academic Affairs/ CAO) and follow an academic plan and successfully meet the college's cumulative GPA minimum requirements and course grade requirements. Failure to follow the plan and successfully meet the college's stated requirements will result in disenrollment.

Advanced Placement Credit

Because Williamson's curriculum is specifically oriented toward trade and technical applications, the college does not exempt students from courses on the basis of having successfully completed advanced placement courses or similar courses at other postsecondary institutions.

Dean's List

The Dean's List is announced after each semester to recognize academic excellence. Students who achieve a 3.67 grade point average or higher are placed on the Dean's List.

The I.V. Club

The I.V. Club recognizes those graduating seniors who best evidence the quality of leadership in exemplifying Williamson's core values and encourages their continued leadership in relations with Williamson. Every year, a select group of graduating seniors is honored with induction into the I.V. Club. The selection process for inductees includes nomination for consideration by the student's program director, followed by a school-wide secret ballot by all Williamson faculty and staff, concluding with the compilation of votes and final selection by the I.V. Club Selection Committee, comprised of faculty and staff members who have frequent contact with all students. The induction into the I.V. Club occurs at a special dinner that includes a formal ceremony attended by many.

Phi Theta Kappa

Williamson's Beta Chi Mu Chapter of the Phi Theta Kappa Honor Society recognizes student academic achievement and through the society provides opportunities for students to grow as scholars and leaders. Each year a select group of students is honored with

induction into the society. For additional information, students should contact the Vice President of Academic Affairs. The induction into Phi Theta Kappa occurs each fall through a formal ceremony.

Graduation

To qualify as a candidate for the Associate in Specialized Technology Degree, a student must have satisfactorily completed a program of study as described in this catalog and must conclude his studies with a cumulative grade point average of 2.0 or higher. In order to complete a program successfully, students must complete all the credit requirements of that program. Students have a maximum time of three years at Williamson to complete their program requirements.

Leave of Absence

In rare circumstances, usually related to a student's health or well-being, a student may request a leave of absence by coordinating with the Vice President of Academic Affairs and completing a Leave of Absence form clearly stating the basis for the leave request. The student's request will be reviewed for approval by the college Provost, who may elect to convene a review committee in alignment with the college's Student Accommodation Support Policy. A copy of the policy is available on the college's Student Management System (Blackbaud) or upon request to the Office of the Provost. If approved, the college will determine the allowable period of absence and any conditions that must be met by the student prior to return. The period of absence begins the day the student submits a completed, signed, and approved Leave of Absence form. Students who fail to return to the college following an approved leave of absence or fail to meet any requirements outlined in their approved Leave of Absence form will be withdrawn from the college; the college's refund policy will be applied in accordance with applicable and published requirements.

Transcripts

Current students may request official copies of their transcript through the college's Blackbaud Student Management System. Former students and alumni may request official copies of their transcript by submitting to the Registrar's Office an electronic Transcript Request Form via the college's website or a signed, written Transcript Request Form downloaded from the website or obtained from the Registrar's Office. To have the transcript sent to a third party, the request must include proper forwarding directions. The college will not accept telephone or email requests for transcripts.

Artificial Intelligence (AI) Policy

The purpose of this policy is to outline the college's position on the use of AI by employees and students in their work and study at Williamson. As such, this policy is directive in nature to all faculty, staff, and students. Given the evolving advancement of AI, the college anticipates that this policy will also evolve and be updated regularly. The college encourages all faculty, staff, and students to review this policy periodically. While AI tools and software can be of benefit, there are equal risks associated with their use and application. These risks directly relate to information security, data privacy, copyright legislation, academic integrity, and bias. Williamson requires that any use of AI be in a manner that is cognizant of its limitations and inherent risks. Questions concerning the college's AI policy should be directed to the Office of the Provost.

Artificial Intelligence (AI) refers to computer systems and applications that can perform complex tasks. While the wide range of tasks and outputs of AI systems and application prevents a universal definition of AI, Williamson follows the definition outlined with the National Defense Authorization Act of 2019.

- Any artificial system that performs tasks under varying and unpredictable circumstances without significant human oversight, or that can learn from experience and improve performance when exposed to data sets.
- An artificial system designed to think or act like a human, including cognitive architectures and neural networks
- A set of techniques, including machine learning that is designed to approximate a cognitive task.
- An artificial system that is designed to act rationally, including an intelligent software agent or embodied robot that achieves goals using perception, planning, reasoning, learning, communicating, decision making, and acting.

Williamson expects all faculty, staff, and students to follow these guidelines when using AI tools for teaching and learning, and work-related functions:

- Follow established IT policy when procuring AI tools, software, or applications (including free tools): All members of the college community must comply with the established IT acceptable use policy outlined within the Employee Handbook and Student Information Technology Handbook. All college software applications and tools must be vetted by the Office of the Provost (functioning as the college's Chief Information Officer) prior to use on the college's network or devices.
- Do not input confidential information: Williamson faculty, staff, and students must not input any confidential information into generative AI tools, except when permitted by validated contract language and security controls (as approved by the Office of the Provost).
- Do not input personal information: Williamson faculty, staff, and students must not input any personal information about its employees, students, faculty, or other community stakeholders into a generative AI tool except when permitted by validated contract language and security controls (as approved by the Office of the Provost).
- Confirm the accuracy of the output provided by generative AI tools: Williamson faculty, staff, and students must check the accuracy and potential bias of any information attained through generative AI tools prior to relying on such information.
- Disclose the use of generative AI tools: Williamson faculty, staff, and students who leverage generative AI to produce any written

materials or other work product must disclose that those materials and that work product is based on or derives from the use of generative AI.

AI Policy and Academic Integrity
At Williamson, it is a universal responsibility to promote intellectual honesty and scholarly integrity, which can be undermined when AI-generated content is used or submitted as one's own work.

For Students: Absent a clear statement from a course instructor granting permission, the use of Gen AI tools to aid in and/or complete an assignment or exam is strictly prohibited. The unauthorized use of AI shall be treated similarly to unauthorized assistance (e.g., cheating) and/or plagiarism. The lack of explicit permission from a course instructor regarding the use of Gen AI will be considered by default as non-permission. Students are encouraged to speak with their instructors regarding their expectations.

For Faculty: Review the guidance shared in this section to help support navigating the appropriate use of AI in the classroom.

- At minimum, it is recommended that faculty share clear expectations at the beginning of each term through the syllabus and class discussions on the appropriate use of AI tools and applications. Faculty should encourage students to reach out to them when support is needed rather than risking a potential academic integrity violation. If AI is permitted in a course, faculty should encourage students to acknowledge and cite any use of AI applications on their submitted work.
- As the use of AI in education has grown, there has been a similar rise in AI-generated detection software. While potentially helpful, there are risks of misidentification through these applications and they should be used with careful consideration and not as a sole source of any academic integrity investigation.

Reporting Violations of IT Acceptable Use Regulations

Violations of the college's IT policy must be reported immediately to college administration. The administration will make every effort to maintain confidentiality to the extent possible consistent with other obligations.

Educational Mission

Institutional Education Goals–General and Technical Education

While each of the college's six academic programs differ in their trade/ technical curricula, there is a "core curriculum" of general academic instruction shared among all programs. In support of the student's technical education, each program includes academic instruction in general areas of education, such as mathematics, communication (written and oral), business, and ethics.

The general areas of instruction have been specifically selected to assist graduates to be successful in their career fields by meeting the general requirements of employment in today's work environment, but they also have been selected to prepare them for further postsecondary education and lifelong learning and to make them educationally well-rounded young men. Certainly, this would include exposing students to new areas of intellectual experience, expanding their cultural and global awareness and cultural sensitivity, and preparing them to make well-reasoned judgments outside as well as within their academic field.

The core curriculum of general academic instruction is designed to provide each student with a broader perspective in alignment with the school's holistic educational philosophy. In support, certain co-curricular experiential learning opportunities – such as the First Year Experience and the Junior Leadership Expedition – reinforce and further develop sound decision-making skills, cultural and global awareness, and the self-confidence to prepare them for success not only within their chosen career path, but in life. The courses that form the college's core curriculum, along with the vast array of technical and trade theory classes are focused in one way or another on critical analysis and reasoning and information literacy.

General Education Institutional Goal

To fulfill the mission to prepare young men to be productive, the school prioritizes general/technical education, with the goal to provide students with appropriate instruction and training in academic, trade, and technical areas in order to prepare them for employment.

General and Technical Education Objectives

- To educate students in courses of a general nature so that they will be equipped to succeed professionally and pursue further education, if desired.
- To educate and train students in trade and technical courses that will prepare them for entry-level employment in their respective professions.
- To provide students with the skills essential to being lifelong learners.
- Demonstrate the knowledge and skills relevant to the student's specific area of study.

General Education Outcomes

- Demonstrate the ability to communicate orally and in writing.
  - Oral: Demonstrate proficiency in creating and delivering oral presentations related to trade/industry
  - Writing: Demonstrate proficiency in composing written presentations related to trade/industry
- Demonstrate the ability to use scientific and quantitative reasoning.
  - Quantitative Reasoning: Demonstrate proficiency in the knowledge and application of mathematical concepts and principles related to trade/industry

    - Scientific Reasoning: Demonstrate proficiency in the knowledge and application of scientific concepts and principles related to trade/industry
- Demonstrate the ability to use critical analysis and reasoning.
    - Demonstrate proficiency in evaluating actions, decisions, ideals, and concepts/theories related to education and trade/ industry
- Demonstrate the ability to use technical competence and information literacy
    - Technical: Demonstrate proficiency in the knowledge and use of technology for education and trade/industry purposes
    - Information Literacy: Demonstrate proficiency in location and use of informational resources for education and trade/ industry purposes
- Demonstrate awareness of values, ethics, and diverse perspectives
    - This outcome is addressed in the college's Leadership and Character Education Institutional Goals

Leadership Education Program

The Lenfest Leadership Program is an integral part of Williamson College of the Trades' curriculum. Guided by workforce readiness competencies, students develop and hone their leadership skills through a variety of activities embedded across their three-year program of study. Central to the leadership program are three required experiential learning events, one each year. Williamson students begin their leadership journey at **First Year Experience (FYE)**, a four-day event that includes an introduction to Williamson's core values, student diversity workshops, teamwork and self-confidence exercises, and community service. At the end of the second year, students participate in the **Junior Leadership Expedition (JLE)**, a multi-day, wilderness trip during which they sharpen leadership and teamworking skills. Finally, at the end of their program, during the **Senior Capstone Experience (SCE)**, seniors reflect on their growth in leadership, paving the way to a successful transition to the workplace.

Leadership and Character Education Goals

Leadership Education - To fulfill the mission of preparing young men to be leaders, the college prioritizes leadership education, with the goal of developing and enhancing students' leadership potential.

Character Education - To fulfill the mission of preparing young men to be respected, the college prioritizes character education, with the goal of developing that character of its students according to the Christian tradition, as exemplified in the school's core values.

Leadership and Character Education Objectives

Leadership Education

- Drawing on academic and experiential learning opportunities, produce graduates with leadership skills to ethically influence others toward the achievement of a collaborative goal.

Character Education

- To develop a foundation for ethical decision-making and behavior, drawing on principles of faith and personal integrity.
- To promote a sense of personal responsibility by fostering the positive habits of industry, as seen in a commitment to a strong work ethic and high standards.
- To promote a sense of responsibility to society by fostering an appreciation for others and a commitment to service.
- Encourage holistic personal growth and identity development throughout the program in alignment with the college's core values, concepts of effective citizenship, and social justice.

Leadership and Character Education Outcomes

Leadership Education

- Demonstrate and apply concepts of followership within a team dynamic.
- Demonstrate an increasing skill to effectively work alongside and lead peers towards common goals.
- Demonstrate the ability to listen and respect the viewpoints of others.
- Describe and demonstrate leadership skills and concepts.
- Assess situations and modify leadership approach depending on the objective, the task, and the team.
- Display critical thinking and analytical skills in leading others towards a defined goal.

Character Education

- Exhibit an understanding of the importance of Williamson's core values to their lives.
- Exhibit an increasing sense of diversity awareness.
- Exhibit an understanding of humanity that respects and values the dignity, worth, and distinct qualities of all individuals.
- Demonstrate positive intrapersonal values and behaviors, such as integrity, responsibility, diligence, self-control, and a positive attitude.
- Demonstrate positive interpersonal values and behaviors, such as respect, fairness, consideration, cooperation, stewardship of resources, civic mindedness, and an eagerness to help others.
- Understand the impact of community service towards effective citizenship and social responsibility.

Commencement Awards

The following awards for outstanding achievement are given annually at commencement:

Lesterle F. Smith Memorial Award
Carpentry student who showed greatest improvement

Beth Nelson Memorial Award
Carpentry student who contributed most to underclassmen

Frank A. McKee Memorial Award
Carpentry student who best reflects the values of Williamson

Alice and Granville Bohmler 4W8 Award
Best overall performance by a Carpentry student

Thomas L. Ott Memorial Award
Electrical student who demonstrated excellence

Electrical Values Award
Electrical student who best reflects the values of Williamson

Electrical Most Improved Award
Electrical student who showed greatest improvement

Longwood Gardens Award for Excellence in Horticulture
Outstanding gardener

Pennsylvania Horticultural Society Service Award
Landscape Construction and Management student who actively promotes horticulture

Isaiah V. Williamson Landscape Construction and Management Award
Landscape Construction and Management student who best reflects the values of Williamson

Marjorie and Clarence W. Schrenk 4W9 Outstanding Achievement Award
Best overall performance by a Landscape Construction and Management student

R. Bruce Bellerjeau 6W9 Memorial Award
Machine Shop student who contributed most to underclassmen

SCOTT® Shop Towels Award
Machine Shop student who showed greatest improvement

John D. Beccaria Memorial Award
Machine Shop student who best reflects the values of Williamson

Kenneth H. Groh Memorial Award
Best overall performance by a Machine Shop student

Nuneviller 3W8-Fulmer Memorial Award
Masonry student who showed greatest improvement

Pennsylvania Concrete Masonry Association Award
Masonry student who best reflects the values of Williamson

John J. Sabia Memorial Award
Best overall performance by a masonry student

Michael Savage 1W2 Memorial Award
Power Plant student who contributed most to underclassmen

Constellation/Thomas M. Callahan 7W9 Memorial Award
Power Plant student who best reflects the values of Williamson

Thomas Gustave Furman 7W9 Memorial Award
Excellence in the Mechanical Field by a Power Plant student

Rupp 18W98-Zipse 5W3 Award
Excellence in the Electrical Field by a Power Plant student

Academic Honors Award
Attaining a cumulative average of 3.5 or better

Good Citizenship Award
No disciplinary points in all three years

Johnson Perseverance Award
For overcoming considerable adversity

Robert Crawford Award
Greatest improvement in trade and academics

Lynford J. Williams 19W07 Award
Excellence in scholarship and athletics

Work-Service Award
Service above the call of duty

Monroe L. Nute 19W23 Award
Highest educational achievement

Larry Turner Award
Displays impeccable leadership qualities, unwavering strength, and a commitment to Williamson's core values

Jeanette and James R. Clemens 3W4 Award
The Williamson Key Award for citizenship, leadership, scholarship, and extra-curricular contributions

Trade Programs

Each student earns an associate's degree in specialized technology in one of these trade programs. (The college reserves the right to offer specific courses at times other than the semesters indicated in the curriculum descriptions.)

Construction Technology-Carpentry Emphasis

Construction Technology-Electrical Emphasis

Construction Technology-Masonry Emphasis

Landscape Construction and Management

Machine Tool Technology

Power Plant Technology

Degrees

Construction Technology – Carpentry

Construction Technology – Carpentry Emphasis

Degree Type
A.S.T.

Program Description

Through lectures, demonstrations, shop exercises, and campus work projects, students are prepared for employment in the residential-commercial carpentry construction industry. The goal of the program is to prepare students eventually to become leaders at many levels in the construction field: journeyman carpenter, job site foreman, construction superintendent, project manager, front office administrator, or owner of a contracting firm.

The program provides thorough instruction and training in residential and small commercial building construction through lectures and shop demonstrations. Special emphasis is placed on understanding the layout of difficult framing applications. The program also covers the processes and procedures necessary for carrying out construction projects from start to finish.

Students in this program take courses in the technical, business, logistical, and management aspects of the construction industry. In the senior year, students take either the advanced trade track or construction management track, which leads to Certificates of Undergraduate Study (CUGS) in Construction Management and Project Management from Rowan University in Glassboro, New Jersey.

The ability of students to apply theory to hand skills is monitored through shop projects requiring skill levels of increasing difficulty and through serving the college on supervised building maintenance, renovation, and new construction assignments.

Program Outcome

Upon successful completion of the requirements for the Construction Technology (Carpentry Emphasis) program, graduating students will earn an Associate in Specialized Technology Degree and will demonstrate the necessary knowledge and skills to become apprentice carpenters and build a foundation to become master carpenters, superintendents, project managers, and construction managers by achieving the following learning outcomes specific to the program.

Program Learning Outcomes

- Demonstrate basic knowledge of residential and commercial construction, their materials, and their appropriate application
- Apply appropriate construction techniques of carpentry forming, framing, and finish applications according to industry standards
- Demonstrate the safe and effective use of tools and equipment common to residential and commercial carpentry
- Thoroughly understand architectural plans for residential and light commercial buildings
- Create accurate and professional construction documents for building projects
- Demonstrate competency in the skills of teamwork, initiative, accountability, and responsibility

Program Tracks

In the senior year, students choose the Advanced Carpentry track or the Construction Management track.

Advanced Carpentry students spend more hands-on time in shop and participate in specialized trade training and supervisory opportunities.

Construction Management students take courses in the technical, business, logistical, and management aspects of the construction industry, leading to Certificates of Undergraduate Study (CUGS) in Construction Management and Project Management from Rowan University in Glassboro, New Jersey.

Freshman Year

First Semester

Course Code	Title	Credits
BUSN 102	Introduction to Business	3
CARP 111	Basic Carpentry Theory I	3
CARP 112	Basic Carpentry Skills I	4.5
CMGT 101	Fundamentals of the Construction Industry I	3
COMM 110	Effective Speaking	3
HMAN 100	Fundamental Program Skills	0.5
HMAN 120	Personal and Business Ethics	3
MATH 110	Fundamentals of Technical Mathematics	2
	Sub-Total Credits	**22**

Second Semester

Course Code	Title	Credits
CARP 121	Basic Carpentry Theory II	3
CARP 122	Basic Carpentry Skills II	4.5
CMGT 102	Fundamentals of the Construction Industry II	3
COMM 120	Basic Writing	3
CPTR 110	Computer Applications	1.5
DRFT 123	Architectural Sketching	1.5
MATH 120	Basic Algebra and Geometry	2
PSCI 120	Physical Science II - Physics	3
	Sub-Total Credits	**21.5**

Junior Year

Third Semester

Course Code	Title	Credits
BLPR 113	Architectural Blueprint Reading	0.5
CARP 231	Intermediate Carpentry Theory I	3.5
CARP 232	Intermediate Carpentry Skills I	4
CMGT 103	Project Building Systems	3
CMGT 141	Construction Take-Off	2.5
COMM 230	Writing for Business and Industry	3
CPTR 130	Introduction to Computer-Aided Design	1.5
MATH 140	Advanced Algebra I	2
	Sub-Total Credits	**20**

Fourth Semester

Course Code	Title	Credits
BUSN 241	Foremanship and Supervision	3
CARP 241	Intermediate Carpentry Theory II	3.5
CARP 242	Intermediate Carpentry Skills II	4
CMGT 104	Project Administration	3
CMGT 105	Construction Safety and Loss Prevention	3
COMM 240	Speech Communications	3
CTEC 137	Strength and Structures	2
MATH 150	Advanced Algebra II	2
	Sub-Total Credits	**23.5**

Senior Year

Fifth Semester

Courses in Common

Course Code	Title	Credits
CARP 252	Advanced Carpentry Skills I	6
COMM 250	Resume Writing and Interviewing	1
HMAN 150	Spanish for the Trades	1.5

Advanced Carpentry Track

Course Code	Title	Credits
BUSN 253	Small Business Start-Up	3
CARP 251	Advanced Carpentry Theory I	3

Construction Management Track

Course Code	Title	Credits
CMGT 106	Construction Cost Accounting, Estimating, and Finance	3
CMGT 107	Construction Project Planning and Scheduling	3
	Sub-Total Credits	**14.5**

Sixth Semester

Courses in Common

Course Code	Title	Credits
BUSN 251	Personal Finance	3
CARP 262	Advanced Carpentry Skills II	6
CPTR 256	Advanced CAD/SketchUp	1.5
HMAN 160	Advanced Spanish for the Trades	1.5

Advanced Carpentry Track

Course Code	Title	Credits
CARP 261	Advanced Carpentry Theory II	3
CARP 263	Topics in Advanced Carpentry Skills II	3

Construction Management Track

Course Code	Title	Credits

CMGT 209	Building Energy Systems for Construction Managers	3
CMGT 210	Building Construction Systems & Codes	3
	Sub-Total Credits	**18**
	Total Credits	**119.5**

Construction Technology – Electrical

Construction Technology – Electrical Emphasis

Degree Type
A.S.T.

Program Description

Through lectures, demonstrations, shop exercises, and campus work projects, students are prepared for employment in the residential-commercial electrical construction industry. The goal of the program is to prepare students eventually to become leaders at many levels in the construction field: journeyman electrician, job site foreman, construction superintendent, project manager, front office administrator, or owner of a contracting firm.

The program provides thorough instruction and training in residential and commercial electrical construction through lecture and shop demonstrations. The program also covers the processes and procedures necessary for carrying out construction projects from start to finish. Students in this program take courses in the technical, business, logistical, and management aspects of the construction industry.

In the senior year, students take either the advanced trade track or the construction management track, which leads to Certificates of Undergraduate Study (CUGS) in Construction Management and Project Management from Rowan University in Glassboro, New Jersey.

The ability of students to apply theory to hand skills is monitored through shop projects requiring skill levels of increasing difficulty and through serving the college on supervised building maintenance, renovation, and new construction assignments.

Program Outcome

Upon successful completion of the requirements for the Construction Technology (Electrical Emphasis) program, graduating students will earn an Associate in Specialized Technology Degree and will demonstrate the necessary knowledge and skills to become apprentice electricians and build a foundation to become master electricians, superintendents, project managers, and construction managers by achieving the following learning outcomes specific to the program.

Program Learning Outcomes

- Demonstrate basic knowledge of residential-commercial-industrial electrical construction
- Apply appropriate residential-commercial-industrial electrical construction techniques according to industry standards
- Demonstrate the safe and effective use of tools and equipment common to residential-commercial-industrial electrical construction
- Create accurate and professional construction documents
- Interpret architectural and MEP plans for residential, commercial, and industrial buildings
- Demonstrate competency in the skills of teamwork, initiative, accountability, and responsibility

Program Tracks

In the senior year, students choose the Advanced Electrical track or the Construction Management track.

Advanced Electrical students spend more hands-on time in shop and receive specialized trade training in security, communications, power transmission and distribution, and electrical construction.

Construction Management students take courses in the technical, business, logistical, and management aspects of the construction industry, leading to Certificates of Undergraduate Study (CUGS) in Construction Management and Project Management from Rowan University in Glassboro, New Jersey.

Freshman Year

First Semester

Course Code	Title	Credits
BUSN 102	Introduction to Business	3
CMGT 101	Fundamentals of the Construction Industry I	3
COMM 110	Effective Speaking	3
ELEC 111	Basic Electrical Theory I	3
ELEC 112	Basic Electrical Skills I	4.5
HMAN 100	Fundamental Program Skills	0.5
HMAN 120	Personal and Business Ethics	3
MATH 110	Fundamentals of Technical Mathematics	2
	Sub-Total Credits	**22**

Second Semester

Course Code	Title	Credits
BLPR 117	Electrical Drawings	0.5
CMGT 102	Fundamentals of the Construction Industry II	3
COMM 120	Basic Writing	3
CPTR 110	Computer Applications	1.5
ELEC 121	Basic Electrical Theory II	3
ELEC 122	Basic Electrical Skills I	4.5
MATH 120	Basic Algebra and Geometry	2
PSCI 120	Physical Science II - Physics	3
	Sub-Total Credits	**20.5**

Junior Year

Third Semester

Course Code	Title	Credits
CMGT 103	Project Building Systems	3
CMGT 141	Construction Take-Off	2.5
COMM 230	Writing for Business and Industry	3
CPTR 130	Introduction to Computer-Aided Design	1.5
DRFT 175	Electrical Drafting and Sketching	1.5
ELEC 231	Intermediate Electrical Theory I	3
ELEC 232	Intermediate Electrical Skills I	4.5
MATH 140	Advanced Algebra I	2
	Sub-Total Credits	**21**

Fourth Semester

Course Code	Title	Credits
BUSN 241	Foremanship and Supervision	3
CMGT 104	Project Administration	3
CMGT 105	Construction Safety and Loss Prevention	3
COMM 240	Speech Communications	3
ELEC 241	Intermediate Electrical Theory II	3
ELEC 242	Intermediate Electrical Skills II	4.5
MATH 150	Advanced Algebra II	2
	Sub-Total Credits	**21.5**

Senior Year

Fifth Semester

Courses in Common

Course Code	Title	Credits
COMM 250	Resume Writing and Interviewing	1
ELEC 252	Advanced Electrical Skills I	6
HMAN 150	Spanish for the Trades	1.5

Advanced Electrical Track

Course Code	Title	Credits
BUSN 253	Small Business Start-Up	3
ELEC 251	Advanced Electrical Theory I	3
ELEC 253	Advanced Electrical Theory II	3

Degree Section Footnote

BUSN 253: Elective (not required for degree)

Construction Management Track

Course Code	Title	Credits
CMGT 106	Construction Cost Accounting, Estimating, and Finance	3
CMGT 107	Construction Project Planning and Scheduling	3
	Sub-Total Credits	**14.5**

Sixth Semester

Courses in Common

Course Code	Title	Credits
BUSN 251	Personal Finance	3
ELEC 262	Advanced Electrical Skills I	6
CPTR 256	Advanced CAD/SketchUp	1.5
HMAN 160	Advanced Spanish for the Trades	1.5

Advanced Electrical Track

Course Code	Title	Credits
ELEC 261	Advanced Electrical Theory III	3
ELEC 263	Advanced Electrical Theory IV	3

Construction Management Track

Course Code	Title	Credits
CMGT 209	Building Energy Systems for Construction Managers	3
CMGT 210	Building Construction Systems & Codes	3
	Sub-Total Credits	**18**
	Total Credits	**117.5**

Construction Technology – Masonry

Construction Technology – Masonry Emphasis

Degree Type
A.S.T.

Program Description

Through lectures, demonstrations, shop exercises, and campus work projects, students are prepared for employment in the residential commercial masonry construction industry. Students are trained in the skills needed to be proficient masons in brick, block, and tile. Students are also given the opportunity, based on their personal interests, to learn the elements of other trowel trades, including stonework, concrete, glass block, stucco, and plaster. The goal of the program is to prepare students eventually to become leaders at many levels in the construction field.

The study of masonry begins with the basics, such as the use of tools, the spreading of mortar, and safety; progresses to intermediate projects, such as building straight walls, arches, and chimneys; and continues with complex projects, such as fireplaces and decorative work.

In addition to providing instruction in masonry skills, students also receive instruction in other areas of importance to a mason such as cost estimation, foremanship, site layout, and general contracting. The program covers the process and procedures required for carrying out construction projects from start to finish. Students in this program also take courses in the technical, business, logistical, and management aspects of the construction industry.

In the senior year, students take either the advanced trade track or the construction management track, which leads to Certificates of Undergraduate Study (CUGS) in Construction Management and Project Management from Rowan University in Glassboro, New Jersey.

The ability of students to apply theory to hand skills is monitored through shop projects requiring skill levels of increasing difficulty and through serving the college on supervised building maintenance, renovation, and new construction assignments.

Program Outcome

Upon successful completion of the requirements for the Construction Technology (Masonry Emphasis) program, graduating students will earn an Associate in Specialized Technology Degree and will demonstrate the necessary knowledge and skills to become apprentice masons and build a foundation to become master masons, superintendents, project managers and construction managers by achieving the following learning outcomes specific to the program.

Program Learning Outcomes

- Demonstrate basic knowledge of masonry construction, its materials, and their appropriate use
- Apply safe and efficient techniques to construct a variety of masonry construction applications according to industry standards
- Demonstrate the safe and effective use of tools and equipment common to residential and commercial masonry
- Create accurate and professional construction documents for building projects
- Interpret architectural plans for residential and light commercial buildings
- Demonstrate competency in the skills of teamwork, initiative, accountability, and responsibility

Program Tracks

In the senior year, students choose the Advanced Masonry track or the Construction Management track.

Advanced Masonry students spend more hands-on time in shop and participate in specialized trade training and supervisory opportunities.

Construction Management students take courses in the technical, business, logistical, and management aspects of the construction industry, leading to Certificates of Undergraduate Study (CUGS) in Construction Management and Project Management from Rowan University in Glassboro, New Jersey.

Freshman Year

First Semester

Course Code	Title	Credits
BUSN 102	Introduction to Business	3

CMGT 101	Fundamentals of the Construction Industry I	3
COMM 110	Effective Speaking	3
HMAN 100	Fundamental Program Skills	0.5
HMAN 120	Personal and Business Ethics	3
MASN 111	Basic Masonry Theory I	2
MASN 112	Basic Masonry Skills I	5
MATH 110	Fundamentals of Technical Mathematics	2
	Sub-Total Credits	**21.5**

Second Semester

Course Code	Title	Credits
CMGT 102	Fundamentals of the Construction Industry II	3
COMM 120	Basic Writing	3
CPTR 110	Computer Applications	1.5
DRFT 123	Architectural Sketching	1.5
MASN 121	Basic Masonry Theory II	2
MASN 122	Basic Masonry Skills II	5
MATH 120	Basic Algebra and Geometry	2
PSCI 120	Physical Science II - Physics	3
	Sub-Total Credits	**21**

Junior Year

Third Semester

Course Code	Title	Credits
BLPR 113	Architectural Blueprint Reading	0.5
CMGT 103	Project Building Systems	3
CMGT 141	Construction Take-Off	2.5
COMM 230	Writing for Business and Industry	3
CPTR 130	Introduction to Computer-Aided Design	1.5
MASN 231	Intermediate Masonry Theory I	2
MASN 232	Intermediate Masonry Skills I	5
MATH 140	Advanced Algebra I	2
	Sub-Total Credits	**19.5**

Fourth Semester

Course Code	Title	Credits
BUSN 241	Foremanship and Supervision	3
CMGT 104	Project Administration	3
CMGT 105	Construction Safety and Loss Prevention	3
COMM 240	Speech Communications	3
CTEC 137	Strength and Structures	2
MASN 241	Intermediate Masonry Theory II	2
MASN 242	Intermediate Masonry Skills II	4
MATH 150	Advanced Algebra II	2
WELD 131	Introduction to Welding	0.5
	Sub-Total Credits	**22.5**

Senior Year

Fifth Semester

Courses in Common

Course Code	Title	Credits
COMM 250	Resume Writing and Interviewing	1
HMAN 150	Spanish for the Trades	1.5
MASN 252	Advanced Masonry Skills I	6

Advanced Masonry Track

Course Code	Title	Credits
BUSN 253	Small Business Start-Up	3
MASN 251	Advanced Masonry Theory I	3

Construction Management Track

Course Code	Title	Credits
CMGT 106	Construction Cost Accounting, Estimating, and Finance	3
CMGT 107	Construction Project Planning and Scheduling	3
	Sub-Total Credits	**14.5**

Sixth Semester

Courses in Common

Course Code	Title	Credits
BUSN 251	Personal Finance	3

CPTR 256	Advanced CAD/SketchUp	1.5
HMAN 160	Advanced Spanish for the Trades	1.5
MASN 262	Advanced Masonry Skills II	6

Advanced Masonry Track

Course Code	Title	Credits
MASN 261	Advanced Masonry Theory II	3
MASN 263	Topics in Advanced Masonry	3

Construction Management Track

Course Code	Title	Credits
CMGT 209	Building Energy Systems for Construction Managers	3
CMGT 210	Building Construction Systems & Codes	3
	Sub-Total Credits	**18**

	Total Credits	**117**

Landscape Construction and Management

Landscape Construction and Management

Degree Type
A.S.T.

Program Description

The goal of the comprehensive training given in the Landscape Construction and Management program is to prepare students to enter the landscaping industry and to advance quickly into management and supervisory positions. Through experience and support courses, students will also be able to own and manage landscaping businesses of their own.

A strong curriculum of theoretical courses is taught, covering topics that include Arboriculture, Herbaceous Ornamentals, Landscape Design and Construction, Tree and Shrub Identification, Turf Establishment and Maintenance, and Hardscaping.

Theoretical studies are reinforced by substantial, practical lab time in which students are required to complete many different campus installations, construction, and maintenance projects. In order to accomplish goals as set forth in the project assignments, the students utilize various hand tools, power equipment, specialized machinery, and vehicles, including chain saws, leaf blowers, tampers, skid-steer loaders, tractors, carts, and trucks.

Program Outcome

Upon successful completion of the requirements for the Landscape Construction and Management program, graduating students will earn an Associate in Specialized Technology Degree and will demonstrate the necessary knowledge and skills to become successful professionals in the green industry by achieving the following learning outcomes specific to the program.

Program Learning Outcomes

- Construct outdoor spaces according to landscape plans, using natural and man-made materials based on professional standards and practices
- Create aesthetically pleasing, functional, and sustainable landscape plans based on professional landscape design standards and practices
- Maintain and improve the health, aesthetics, and function of outdoor landscapes according to scientific and professional standards and practices
- Demonstrate basic proficiency in the safe operation of tools and equipment common to the landscape construction and management profession
- Demonstrate competency in the skills of teamwork, initiative, accountability, and responsibility

Freshman Year

First Semester

Course Code	Title	Credits
COMM 110	Effective Speaking	3
CPTR 110	Computer Applications	1.5
DRFT 171	Landscape Drafting and Sketching	1.5
HMAN 100	Fundamental Program Skills	0.5
LCAM 111	Plant Science	3
LCAM 113	Soils and Soil Fertility	3
LCAM 119	Landscaping Techniques I	2
LCAM 120	Equipment Operation and Safety	1
LCAM 211	Tree Plant Materials	3
	Sub-Total Credits	**18.5**

Second Semester

Course Code	Title	Credits

BUSN 102	Introduction to Business	3
COMM 120	Basic Writing	3
CPTR 130	Introduction to Computer-Aided Design	1.5
HMAN 120	Personal and Business Ethics	3
LCAM 129	Landscaping Techniques II	2
LCAM 221	Shrub Plant Materials	3
MATH 110	Fundamentals of Technical Mathematics	2
PSCI 110	Physical Science I - Chemistry	3
	Sub-Total Credits	**20.5**

Junior Year

Third Semester

Course Code	Title	Credits
COMM 230	Writing for Business and Industry	3
CPTR 250	Computer-Aided Design Applications	1.5
LCAM 231	Herbaceous Perennials	3
LCAM 233	Arboriculture and Climbing	1.5
LCAM 235	Turfgrass Science	3
LCAM 236	Pavers and Retaining Walls	3
LCAM 238	Contemporary Landscape Design	2
LCAM 239	Advanced Landscaping Techniques I	2
MATH 120	Basic Algebra and Geometry	2
	Sub-Total Credits	**21**

Fourth Semester

Course Code	Title	Credits
BUSN 241	Foremanship and Supervision	3
COMM 240	Speech Communications	3
LCAM 241	Annuals, Bulbs, and Ferns	1.5
LCAM 243	Integrated Pest Management	1.5
LCAM 244	Landscape Design Fundamentals	3
LCAM 245	Turfgrass Pest Management	1.5
LCAM 249	Advanced Landscaping Techniques II	2
LCAM 271	Arboriculture Techniques	1.5
LCAM 272	Surveying and Grading	1.5
	Sub-Total Credits	**18.5**

Senior Year

Fifth Semester

Course Code	Title	Credits
BUSN 253	Small Business Start-Up	3
COMM 250	Resume Writing and Interviewing	1
HMAN 150	Spanish for the Trades	1.5
LCAM 251	Landscape Design Software and Presentation	3
LCAM 252	Ornamental Pest Management	1.5
LCAM 253	Natural Stone and Brick Hardscaping	3
LCAM 259	Field Supervision I	2
LCAM 265	Capstone Project Design	2
	Sub-Total Credits	**17**

Sixth Semester

Course Code	Title	Credits
BUSN 251	Personal Finance	3
CMGT 105	Construction Safety and Loss Prevention	3
HMAN 160	Advanced Spanish for the Trades	1.5
LCAM 261	Applied Residential Landscape Design	3
LCAM 262	Landscape Estimating and Contract Administration	1.5
LCAM 263	Lighting, Irrigation, and Pond Construction	3
LCAM 269	Field Supervision II	1
LCAM 273	Capstone Project	4
WELD 131	Introduction to Welding	0.5
	Sub-Total Credits	**20.5**

	Total Credits	**116**

Machine Tool Technology

Machine Tool Technology

Degree Type
A.S.T.

Program Description

Machinists design and create the prototypes from which most metal and other manufactured items are made, from large heavy machinery to small hand tools. Machinists also understand the underlying systems so they can maintain, troubleshoot, and repair equipment.

Working in a modern, fully equipped machine shop, students in this program gain the knowledge and skills needed to fabricate metal items and repair and maintain advanced industrial machinery. This high-precision trade requires development of skills in the use of hand tools, measuring instruments, testing equipment, and basic, automatic, and computer- numerically-controlled (CNC) machine tools. The program also covers welding and heat treating, as well as accident prevention, foremanship, and quality control.

Students learn through theory courses and practical experience on shop assignments and maintenance projects. Freshmen work on basic projects such as tooling, and they learn to operate various machines. Juniors are involved in blueprint projects, maintenance tasks, and making items needed by the college. In the second semester, juniors choose the advanced manufacturing track or the industrial maintenance track. Seniors undertake more complex design projects or maintenance assignments based on their track.

Program Outcome

Upon successful completion of the requirements for the Machine Tool Technology program, graduating students will earn an Associate in Specialized Technology Degree and will demonstrate the necessary knowledge and skills to function at an advanced apprentice level in machining, CAD, CAM, CNC programming or as an engineering technician by achieving the following learning outcomes specific to the program.

Program Learning Outcomes

- Demonstrate an understanding of the principles and theory of manufacturing processes to cut, shape, form, and fabricate materials
- Interpret part prints to manufacture products according to industry standards
- Use CAD/CAM programs to design and manufacture products that accurately reflect part prints
- Demonstrate the safe and effective operation of manual and computer-numerically controlled machine tools and equipment
- Demonstrate understanding of the theory and principles of maintenance processes and procedures in an industrial setting
- Demonstrate competency in the skills of teamwork, initiative, accountability, and responsibility

Program Tracks

In the middle of the junior year, students choose the Advanced Manufacturing track or the Industrial Maintenance track.

Advanced Manufacturing students focus on CNC and CAM programming and practice as well as additive and robotic manufacturing.

Industrial Maintenance students learn and apply concepts in electrical wiring, fabrication and rigging, hydraulics and pneumatics, and other maintenance areas.

Freshman Year

First Semester

Course Code	Title	Credits
BUSN 102	Introduction to Business	3
COMM 110	Effective Speaking	3
CPTR 110	Computer Applications	1.5
DRFT 119	General Drafting and Blueprint Reading	1.5
ELPP 111	Basic Electricity	1.5
HMAN 100	Fundamental Program Skills	0.5
MACH 111	Basic Machine Shop Theory I	3
MACH 112	Basic Machine Shop Practice I	4.5
MATH 110	Fundamentals of Technical Mathematics	2
	Sub-Total Credits	**20.5**

Second Semester

Course Code	Title	Credits
COMM 120	Basic Writing	3
CPTR 130	Introduction to Computer-Aided Design	1.5
HMAN 120	Personal and Business Ethics	3
MACH 121	Basic Machine Shop Theory II	3
MACH 122	Basic Machine Shop Practice II	4.5
MATH 120	Basic Algebra and Geometry	2
PSCI 120	Physical Science II - Physics	3
	Sub-Total Credits	**20**

Junior Year

Third Semester

Course Code	Title	Credits
BLPR 241	Advanced Mechanical Blueprint Reading	2
COMM 230	Writing for Business and Industry	3

CPTR 241	Advanced CAD in Machine Tool Technology I	1.5
MACH 231	Intermediate Machine Shop Theory I	3
MACH 232	Intermediate Machine Shop Practice I	3.5
MACH 233	Lean Manufacturing and Quality Control	2
MACH 239	General Industry Safety	2
MATH 140	Advanced Algebra I	2
WELD 132	Welding Fundamentals I	1.5
	Sub-Total Credits	**20.5**

Fourth Semester

Courses in Common

Course Code	Title	Credits
BUSN 241	Foremanship and Supervision	3
COMM 240	Speech Communications	3
MACH 241	Intermediate Machine Shop Theory II	3
MACH 242	Intermediate Machine Shop Practice II	4
MATH 150	Advanced Algebra II	2
METL 251	Metallurgy I	2

Advanced Manufacturing Track

Course Code	Title	Credits
CNCP 241	Introduction to CNC Programming	1.5
CNCP 242	Introduction to CNC Practice	1
CPTR 251	Advanced CAD in Machine Tool Technology II	1.5

Industrial Maintenance Track

Course Code	Title	Credits
ELPP 112	Electrical Wiring Lab	1.5
MECH 281	Fabrication and Rigging I	2.5
	Sub-Total Credits	**21**

Senior Year

Fifth Semester

Courses in Common

Course Code	Title	Credits
BUSN 251	Personal Finance	3
COMM 250	Resume Writing and Interviewing	1
MACH 252	Advanced Machine Shop Practice I	3
METL 261	Metallurgy II	2

Advanced Manufacturing Track

Course Code	Title	Credits
CNCP 251	CNC Programming I	2
CNCP 252	CNC Practice I	1.5
CPTR 263	Advanced CAM in Machine Tool Technology I	1.5
MACH 271	Additive Manufacturing I	2
MACH 272	Robotic Manufacturing I	2

Industrial Maintenance Track

Course Code	Title	Credits
MACH 263	Hydraulics and Pneumatics	2.5
MECH 282	Industrial Maintenance I	2.5
MECH 283	Power Transmission and Alignment I	2
MECH 284	Electrical Controls and Wiring I	2
	Sub-Total Credits	**18**

Sixth Semester

Courses in Common

Course Code	Title	Credits
MACH 262	Advanced Machine Shop Practice II	3

Advanced Manufacturing Track

Course Code	Title	Credits
BUSN 253	Small Business Start-Up	3
CNCP 261	CNC Programming II	2
CPTR 264	Advanced CAM in Machine Tool Technology II	1.5
MACH 273	Additive Manufacturing II	2

MACH 274	Robotic Manufacturing II	2
MACH 275	EDM	2

Degree Section Footnote

BUSN 253: Elective (not required for degree)

Industrial Maintenance Track

Course Code	Title	Credits
MECH 285	Industrial Maintenance II	2.5
MECH 286	Power Transmission and Alignment II	2.5
MECH 287	Electrical Controls and Wiring II	2.5
MECH 288	Advanced Hydraulics and Pneumatics	2
MECH 289	Fabrication and Rigging II	2
	Sub-Total Credits	**14.5**
	Total Credits	**114.5**

Power Plant Technology

Power Plant Technology

Degree Type

A.S.T.

Program Description

Through the operation of the college power plant and maintenance of its utilities, students gain valuable practical experience preparing them for positions in the power and utilities industries. Students take turns with shift work, which includes readings and adjustments, start-up and shutdown of plant equipment, daily water treatment tests, and mechanical and electrical maintenance.

Students also learn the proper operation, maintenance, and testing of boilers, turbines, diesel engines, electric generators, switch gear, pumps and other auxiliary equipment, as well as the theory of nuclear, fossil fuel, hydroelectric and other systems of power generation. The NUS Training Corporation's video-based power plant training program has been incorporated as part of the technical curriculum. The basic principles of electricity, electrical power, motor controls, wiring diagrams, engineering mechanics, and mechanical and electrical systems are also covered, along with accident prevention, foremanship, and management. Additional courses to strengthen students' knowledge and skills include boiler/turbine instrumentation, welding, and metal survey. On an annual basis, students have participated in a maintenance shutdown at a local power plant.

Program Outcome

Upon successful completion of the requirements for the Power Plant Technology program, graduating students will earn an Associate in Specialized Technology Degree and will demonstrate the necessary knowledge and skills for a broad variety of positions in the power and utilities industries by achieving the following learning outcomes specific to the program.

Program Learning Outcomes

- Demonstrate knowledge of the concepts and principles necessary to operate and maintain power plants
- Operate and maintain campus power plant facility according to industry standards and state/local requirements
- Demonstrate the safe and effective use of tools and equipment common to the power industry
- Demonstrate supervisory proficiency by effectively managing staff to achieve power plant objectives
- Demonstrate competency in the skills of teamwork, initiative, accountability, and responsibility

Freshman Year

First Semester

Course Code	Title	Credits
BLPR 112	Power Plant Blueprint Reading I	0.5
COMM 110	Effective Speaking	3
CPTR 110	Computer Applications	1.5
DRFT 114	Power Plant Drafting and Sketching	1.5
ELPP 111	Basic Electricity	1.5
HMAN 100	Fundamental Program Skills	0.5
MATH 120	Basic Algebra and Geometry	2
PRPL 111	High Pressure Boilers	2
PRPL 112	Auxiliary Plant Operator Practice I	3
PRPL 123	Boiler Chemistry	1.5
PSCI 120	Physical Science II - Physics	3
	Sub-Total Credits	**20**

Second Semester

Course Code	Title	Credits
BUSN 102	Introduction to Business	3
COMM 120	Basic Writing	3

CPTR 130	Introduction to Computer-Aided Design	1.5
ELPP 221	Electrical Power I	2.5
HMAN 120	Personal and Business Ethics	3
MATH 140	Advanced Algebra I	2
PRPL 121	Basic Power Plant Theory	2
PRPL 122	Auxiliary Plant Operator Practice II	4
PRPL 124	Power Plant Auxiliaries	1.5
	Sub-Total Credits	**22.5**

Junior Year

Third Semester

Course Code	Title	Credits
BLPR 123	Power Plant Blueprint Reading II	0.5
BUSN 241	Foremanship and Supervision	3
COMM 230	Writing for Business and Industry	3
ELPP 112	Electrical Wiring Lab	1.5
ELPP 231	Electrical Power II	2.5
ELPP 232	Introduction to Distributed Control Systems	2
MATH 150	Advanced Algebra II	2
PRPL 231	Plant Cycle and Systems	2
PRPL 232	Plant Operator Practice I	3
WELD 132	Welding Fundamentals I	1.5
	Sub-Total Credits	**21**

Fourth Semester

Course Code	Title	Credits
COMM 240	Speech Communications	3
MATH 160	Advanced Technical Mathematics	2
PRPL 241	Boilers and Combustion	2
PRPL 242	Plant Operator Practice II	4
PRPL 243	Introduction to Process Instrumentation and Automatic Controls	3
PRPL 244	Boiler Simulator Lab	2
PRPL 245	Gas Turbines and Combined Cycle	1.5
PRPL 263	Introduction to Thermodynamics	2
	Sub-Total Credits	**19.5**

Senior Year

Fifth Semester

Course Code	Title	Credits
COMM 250	Resume Writing and Interviewing	1
ELPP 251	Industrial Motor Control	2.5
ELPP 261	Programmable Logic Controllers	2.5
METL 150	Metals Survey	0.5
PRPL 251	Boiler Design and Environmental Protection	2
PRPL 252	Plant Supervisor Practice I	4
PRPL 253	Advanced Process Instrumentation and Automatic Control	2.5
PRPL 257	Hydraulics, and Pneumatics	2.5
	Sub-Total Credits	**17.5**

Sixth Semester

Course Code	Title	Credits
BUSN 251	Personal Finance	3
PRPL 261	Turbines	2
PRPL 262	Plant Supervisor Practice II	4.5
PRPL 265	Introduction to Statics	1.5
PRPL 266	Introduction to Strength of Materials	1.5
	Sub-Total Credits	**12.5**

	Total Credits	**113**

Courses

BLPR 112: Power Plant Blueprint Reading I

Using the drawings of equipment and flow diagrams in the Williamson power plant, instructs Power Plant Technology students in reading and understanding the different styles of drafting used in piping or electrical drawings and the symbols used to represent various fittings, valves, and pipe sizes.

Credits	**0.5**

BLPR 113: Architectural Blueprint Reading

Acquaints building trade students with the different styles of residential and commercial construction and the symbols used to represent various construction materials. Also offers additional practice in reading specifications and making cost estimates from blueprints.

Credits	**0.5**

BLPR 117: Electrical Drawings

Covers the drawings typically associated with substations and the skills needed for their interpretation. Provides detailed instruction on elementary, schematic, and general component arrangement drawings. Also covers wiring diagrams and drawing schedules.

Credits	**0.5**

BLPR 123: Power Plant Blueprint Reading II

Using drawings from actual power plants and refineries, instructs Power Plant Technology students in reading and understanding the different styles of drafting. Continues to provide familiarization and practice in reading specifications, interpreting bills of material, and estimating costs from blueprints.

Credits	**0.5**

BLPR 241: Advanced Mechanical Blueprint Reading

Continues to develop students' ability to recognize standard graphic symbols dealing with machine threads, tolerance allowances, and the various styles of dimensioning used in the industry along with reading finishes and material requirements.

Credits	**2**

BUSN 102: Introduction to Business

Introduces students to the business world, emphasizing the terminology used in business. Explores the events and economic conditions that affect business. Discusses business in a global environment, the various forms of business, the social responsibility of business and the functions of accounting, marketing, management, and human resource management. Also explores the role of technology in business.

Credits	**3**

BUSN 241: Foremanship and Supervision

Prepares students to become supervisors in a business setting. Includes an overview of the role of supervisors and a detailed look at each of the many jobs they perform.

Credits	**3**

BUSN 251: Personal Finance

Acquaints the student with a model for personal financial planning as a method for managing his financial resources and improving his life-style by establishing and achieving financial goals. Topics include the American banking system, budgeting, recordkeeping, insurance, basics of investing, and retirement and estate planning.

Credits	**3**

BUSN 253: Small Business Start-Up

Provides students with a detailed overview of the knowledge, skills, theory, and applications as sociated with starting a business, specifically in the trades. This includes a business plan and marketing plan.

Credits	**3**

CARP 111: Basic Carpentry Theory I

Introduces construction materials, including lumber, engineered panels, other engineered lumber products, and fasteners. Thoroughly covers manual hand tools, portable power tools, and stationary power tools. Accident prevention and safety practices are emphasized throughout.

Credits	**3**
Course Designation	**Trade Course**

CARP 112: Basic Carpentry Skills I

Gives practice in basic carpentry skills with emphasis on the safe and proper uses of hand tools by constructing wood joints in the shop and by working on school maintenance, renovation, and new construction projects. Also emphasizes on-the-job safety.

Credits	**4.5**
Course Designation	**Trade Course**

CARP 121: Basic Carpentry Theory II

Introduces the different prints that are needed to construct a building and the various building codes and regulations involved in construction. Provides basic instruction in building layout and surveying methods. Introduces the tools and formulas for concrete estimating and how to make and use forms for various applications of concrete. Covers the proper and safe construction of scaffolds. Accident prevention and safety practices are emphasized throughout.

Credits	**3**
Course Designation	**Trade Course**

CARP 122: Basic Carpentry Skills II

Teaches the safe and proper use of electric hand tools and stationary power equipment through assignments in the shop using wood and wood products. Also, further develops basic carpentry skills through supervised maintenance, renovation, and new construction projects.

Credits	**4.5**
Course Designation	**Trade Course**

CARP 231: Intermediate Carpentry Theory I

Provides thorough instruction in framing applications, including: the proper estimation, sizing, and installation of various floor framing systems; the proper procedures for estimation and construction of an extension and load-bearing wall system; the proper installation of interior framing members; construction procedures using metal studs; and roof construction, including rafter layout and material calculations.

Credits	**3.5**
Course Designation	**Trade Course**

CARP 232: Intermediate Carpentry Skills I

Develops competency in tasks such as rough framing, layout of joists, bridging, sheathing, wall framing systems, layout of common and hip roofs, and skills involved in layout and installation of door hardware. Safe hand and power tool skills are continually developed through supervised maintenance projects. The student must also plan and budget his time for the successful completion of required shop projects.

Credits	**4**
Course Designation	**Trade Course**

CARP 241: Intermediate Carpentry Theory II

Provides instruction in various aspects of interior and exterior finish applications, including: insulation and ventilation; roofing; cornice construction; window installation; exterior door frame and door construction and installation; siding installation; drywall construction; wall paneling and wall tile; ceiling finish applications; and interior trim applications.

Credits	**3.5**
Course Designation	**Trade Course**

CARP 242: Intermediate Carpentry Skills II

Develops competency in tasks such as interior and exterior finishes, door and window installations, and interior millwork. Competencies in these areas are developed through the layout and construction of projects. Further development of practical skills is provided through supervised work on maintenance, renovation, and new construction projects.

Credits	**4**
Course Designation	**Trade Course**

CARP 251: Advanced Carpentry Theory I

Provides instruction in various aspects of interior finish applications, including: interior doors and door frames; stair framing; and finish floors.

Credits	**3**
Course Designation	**Trade Course**

CARP 252: Advanced Carpentry Skills I

Develops competency in such tasks as the cutting and installation of stair horses and finish stair skirt boards. Also includes the application of project management principles through hands-on experiences as shop foreman and job foreman on campus projects. As a foreman, the senior will assume the responsibilities of job supervision, estimating, ordering of materials, and teaching the safe and proper methods of construction to underclassmen. Includes more hands-on shop time to develop carpentry skills further.

Credits	**6**
Course Designation	**Trade Course**

CARP 261: Advanced Carpentry Theory II

Provides instruction in the types, layout, construction, and installation of cabinets and countertops, including fabrication and installation of Corian. Also explores other trades and their impact on the construction process, particularly electrical work and plumbing.

Credits	**3**
Course Designation	**Trade Course**

CARP 262: Advanced Carpentry Skills II

Provides experience in supervising other students in actual work situations and applying project management skills. Gives students increasingly specialized training in the shop and progressively more difficult tasks on actual construction projects. Includes more hands-on shop time to develop carpentry skills further.

Credits	**6**
Course Designation	**Trade Course**

CARP 263: Topics in Advanced Carpentry Skills II

Provides experience in supervising other students in actual work situations and applying project management skills. Gives students increasingly specialized training in the shop and progressively more difficult tasks on actual construction projects. Includes more hands-on shop time to develop carpentry skills further.

Credits	**3**
Course Designation	**Trade Course**

CMGT 101: Fundamentals of the Construction Industry I

Provides a general overview of the planning, administration, management, and cost of construction projects and an introduction to the methodology used in executing specific designs. Emphasizes the organization of construction firms, use and types of primary construction equipment, estimating and quantity take-offs, contractual and management systems, scheduling, project administration, and inspection of construction operations.

Credits	**3**
Course Designation	**Rowan University Partner Course**

CMGT 102: Fundamentals of the Construction Industry II

Introduces the design process and development of construction documents. Covers the standard design phases: programming, conceptual design, schematic design, design development, construction documents and construction administration, and the format and utilization of project manuals including contract specifications, the interpretation and analysis of engineering plans and specifications, and the new technologies being used in the design including Building Informational Modeling (BIM) and sustainable (green) practices. Also explores the various common project delivery methods.

Credits	**3**
Course Designation	**Rowan University Partner Course**

CMGT 103: Project Building Systems

Provides instruction in the description and identification of the equipment and materials used in mechanical systems for heating, ventilating and air conditioning, electrical, plumbing, fire protection, piping, gas, lighting, water and waste water, conveyance, life safety systems, environmental, security, audio/visual, and building system controls. Also introduces building structural and envelope systems.

Credits	**3**
Course Designation	**Rowan University Partner Course**

CMGT 104: Project Administration

Provides exposure to and use of various types of projects control systems for project efficiency and documentation. Covers how the submittal process operates and is monitored. Reviews a variety of tools used in tracking project documentation, and essential elements related to contract law and administration.

Credits	**3**
Course Designation	**Rowan University Partner Course**

CMGT 105: Construction Safety and Loss Prevention

Offers a practical guide for eliminating safety and health hazards from construction worksites. Covers program development, safety and health program implementation, intervention, and prevention of construction incidents, regulatory hazards faced by those working in the construction industry and sources of information. Also features updates for construction regulations, construction job audit, training requirements, and OSHA regulations. Includes new record keeping guidelines and forms with additional material on focused inspections. Provides updated contact information for the newest agencies and presents a model safety and health program, and examples of accident analysis and prevention approaches.

Credits	**3**
Course Designation	**Rowan University Partner Course**

CMGT 106: Construction Cost Accounting, Estimating, and Finance

Introduces various costs of construction including direct and indirect project costs, comparison of hard and soft costs, job cost analysis and forecasting of cost to completion, labor, material and equipment expenses, cash flow, overhead, profitability, and general conditions costs. Covers research techniques used to create accurate estimating and bidding procedures.

Credits	**3**
Course Designation	**Rowan University Partner Course**

CMGT 107: Construction Project Planning and Scheduling

Provides instruction in procedures used in project planning and scheduling that employ float methods of scheduling logic. Examines the critical path series of activities of project completion, including the use of computer software applications for problem solving, and related tools, spreadsheets, and information management. Also covers work breakdown structures, activity durations, status reports, resource allocation, replanning, monitoring, and updating of projects. Students will develop project site logistics plans.

Credits	**3**
Course Designation	**Rowan University Partner Course**

CMGT 141: Construction Take-Off

Develops fundamental construction estimating skills especially during the construction take-off process. This includes general conditions, material quantities, concrete, rough carpentry, electrical work, masonry (brick and block), steel, mechanical work, finish applications, and labor. It involves familiarization with formal bids, insurance, and bonds. Students will be expected to identify and use appropriate math formulas, interpret construction plans and specifications, and compile essential data to develop an actual estimate, including summaries and costs by category.

Credits	**2.5**

CMGT 209: Building Energy Systems for Construction Managers

Provides a conceptual understanding of functions and performances of energy systems including mechanical, electrical, electronic, and plumbing and transport systems in residential and commercial buildings. Also provides information on integration between energy systems and other building components. Introduces the concepts of alternative energy sources, energy efficiency, structural implications of mechanical systems, indoor air quality, and environmental control strategies. Familiarizes students with more recent and current efforts in sustainability and green building ideas. Also introduces codes and standards relevant to energy devices used in building construction, such as National Fire Protection Association (NFPA), American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE), and National Electrical Code (NEC).

Credits	**3**
Course Designation	**Rowan University Partner Course**

CMGT 210: Building Construction Systems & Codes

Provides a conceptual understanding of functions and performance of structural building systems. Familiarizes students with use of construction code with reference to International Building Codes (IBC) 2012. Provides an understanding of how the code was developed, how it is to be interpreted, and how it is applied to design and construction of buildings, with the goal of making implementation of the code easier and clearer to understand. Discusses structural elements and their construction methods, use and occupancy, types of construction, fire resistive constructions, interior finishes, building materials, inspections, and tests.

Credits	**3**
Course Designation	**Rowan University Partner Course**

CNCP 241: Introduction to CNC Programming

Provides a foundational introduction to computer-numerical control machining, including its history, evolution, use, and application in the industry. Also include an overview of different types of formatting and codes as well as approaches.

Credits	**1.5**
Course Designation	**Trade Course**

CNCP 242: Introduction to CNC Practice

Provides opportunities for the simultaneous application of knowledge gained in CNCP 241.

Credits	**1**
Course Designation	**Trade Course**

CNCP 251: CNC Programming I

Examines the purpose and history of computer-numerical-controlled machines (CNC) and provides instruction in the writing of basic CNC programs using the incremental and absolute methods of the Cartesian coordinate system. Also prepares students to write individual manual programs that include standard industrial preparatory and miscellaneous codes for machine tool programming.

Credits	**2**
Course Designation	**Trade Course**

CNCP 252: CNC Practice I

Provides instruction in the safe set-up and operation of CNC machines and practical training in entering programs, setting tool lengths, proving and modifying programs, and handling and transferring data and use of Computer Aided Manufacturing software.

Credits	**1.5**
Course Designation	**Trade Course**

CNCP 261: CNC Programming II

Offers an introduction to computer-aided machining (CAM), including programming jobs directly from CAD data and from prints by geometric definition. Covers two-and-one-half and 3-axis programming and manual programming applying standard industry codes to CNC lathes and machining centers.

Credits	**2**
Course Designation	**Trade Course**

CNCP 262: CNC Practice II

Provides advanced instruction in the operation of CNC machines and CAM programming, including entering and editing programs, handling and transferring data through direct numerical control (DNC), and performing set-up and fixturing of parts and machines.

Credits	**2**
Course Designation	**Trade Course**

COMM 110: Effective Speaking

Teaches students the principles of articulate speaking through familiarization with concepts and mechanics of spoken communication and through practical usage. Develops understanding of speech processing, speech-building (including research), speech delivery, nonverbal communication, self- and peer evaluation, problem solving, and terminology associated with the physical act of speaking. Provides instruction in the successful performance of six types of speeches (memorized passage, impromptu, extemporaneous, demonstrative, persuasive, and informative). Includes study of the founder's history.

Credits	**3**

COMM 120: Basic Writing

Provides instruction in the fundamentals of English composition, including writing summaries, narratives, instructional analysis, descriptive prose, extended definitions and a research paper reflecting a single point of view on a controversial topic.

Credits	**3**

COMM 230: Writing for Business and Industry

Focuses on the special needs for written communication skills in the business world. Familiarizes students with various forms of technical writing and allows students practice in a wide variety of formats they may encounter in a business or technical setting.

Credits	**3**

COMM 240: Speech Communications

Offers advanced study of communication based on intrapersonal and interpersonal skills needed in the workplace. Emphasis is placed on listening, conflict management, customer relations, group dynamics, decision-making, and problem-solving skills.

Credits	**3**

COMM 250: Resume Writing and Interviewing

Prepares third-year students to conduct effective job searches and to maximize opportunities for obtaining the best possible employment upon graduation. Includes preparation of cover letters, resumes, and applications, as well as proper conduct in an employment interview. At the end of the course, each student is expected to have a complete dossier and be thoroughly prepared to find a full-time job in his chosen field.

Credits	**1**

CPTR 110: Computer Applications

Introduces the use and operation of microcomputers for home, educational, business, and industrial applications. Emphasizes developing skills with Microsoft Windows programs. Students will learn word processing, spreadsheet, presentation, and database applications that operate within the Windows environment, progressing from the fundamental components of a computer system to the multitasking aspects of Windows-based programs.

Credits	**1.5**

CPTR 130: Introduction to Computer-Aided Design

Familiarizes students with computer-aided design (CAD) software and assists in developing the skills and knowledge required to operate a CAD system. Requires completion of a series of drafting assignments.

Credits	**1.5**

CPTR 241: Advanced CAD in Machine Tool Technology I

Provides additional training and practice in the use of CAD, requiring progressively more complex drawing assignments. Covers entering pertinent data for drawings, using relative and absolute coordinates, employing keyboard digitizing or pointing devices, sending drawing commands to a plotter, and producing a hard copy.

Credits	**1.5**

CPTR 250: Computer-Aided Design Applications

Provides additional training and practice in the use of CAD, using progressively more complex drawing assignments in drafting assignments. Covers entering pertinent data for drawings, using relative and absolute coordinates, employing keyboard digitizing or pointing devices, sending drawing commands to a plotter, and producing a hard copy.

Credits	**1.5**

CPTR 251: Advanced CAD in Machine Tool Technology II

Provides an overview of parametric solid modeling software for mechanical applications using SolidWorks. Students learn to use sketch planes to create 3-D solid models, add features, and build complexity into their models.

Credits	**1.5**

CPTR 256: Advanced CAD/SketchUp

Provides additional training and practice in the use of AutoCAD and SketchUp for Carpentry, Electrical, and Masonry students, requiring progressively more complex drawing assignments. Instruction in the development of architectural plan and elevation drawings, wall sections, details, schedules and working 3D models.

Credits	**1.5**

CPTR 263: Advanced CAM in Machine Tool Technology I

Provides a comprehensive exploration of topics in computer-aided manufacturing. Emphasizes modeling and programming, methods, production environment, and production impacts.

Credits	**1.5**

CPTR 264: Advanced CAM in Machine Tool Technology II

Continues the exploration of complex topics associated with computer-aided manufacturing in CPTR 263. Emphasizes modeling and programming, methods, production environment, future forward developments in the field, and troubleshooting techniques.

Credits	**1.5**

CTEC 137: Strength and Structures

Offers a cross section of applied mathematics to the field of machine and/or structural design and the basic principles of forces in equilibrium, including forces and stresses, moments and reactions, bending, and shear and bending moments, plus properties of sections. This course emphasizes the use of formulas rather than their derivation.

Credits	**2**

DRFT 114: Power Plant Drafting and Sketching

Using knowledge from BLPR 112, instructs power plant student in the drawing of sectional views, single-line and isometric piping diagrams, elevations and spool drawings.

Credits	**1.5**

DRFT 119: General Drafting and Blueprint Reading

Introduces basic concepts and drawing skills, including sketching freehand and with tools, manual drafting, orthographics, isometric and oblique drawings, using a scale, drawing to various scales, and solving geometric problems in drafting. Also teaches Machine Tool Technology students to read and understand various styles of mechanical drawings and blueprints and to interpret drawings in relation to basic information provided so that possible errors or omissions can be corrected before proceeding on work assignments. Develops ability to recognize standard graphic symbols dealing with machine threads, tolerance allowances, and the various styles of dimensioning used in the industry.

Credits	**1.5**

DRFT 123: Architectural Sketching

Develops the ability to illustrate with drawings, using the appropriate scale and details necessary for building residential homes, including foundations, footings, framing, roof sections, stairs, windows, and door details. This includes a detailed introduction to SketchUp and how to utilize the software.

Credits	**1.5**

DRFT 171: Landscape Drafting and Sketching

Develops basic skills in hand drawing and sketching techniques to create reasonably-scaled landscape designs using horticultural symbols, different line weights, textures and colors.

Credits	**1.5**

DRFT 175: Electrical Drafting and Sketching

Explores how drafting pertains to electronic components, equipment, and systems manufacturing, including the following units of study: diagrams, schematics, printed circuit boards, and other relative designs, along with electrical and electronic drawings stressing modern representation used for block diagrams, schematic diagrams, logic diagrams, wiring/assembly drawings, printed circuit board layouts, motor control diagrams, power distribution diagrams, and electrical one-line diagrams. The respective roles of engineers, designers, and draftsmen and how these relate to the electrical shop will be explored.

Credits	**1.5**

ELEC 111: Basic Electrical Theory I

Provides an overview of the electrical trade. Covers safety rules and regulations for electricians, including lockout/tagout procedures. Introduces Ohm's law (as applied to DC circuits); series/parallel circuits, resistive circuits, and circuit analysis; the NEC® and how to use it. Also focuses on electrical prints, schematics, one-lines, and wiring diagrams.

Credits	**3**
Course Designation	**Trade Course**

ELEC 112: Basic Electrical Skills I

Trains students in basic hardware, systems, and tasks familiar to electricians in residential construction/maintenance, including electrical devices and wiring techniques. Stresses safety precautions and appropriate National Electric Code® requirements throughout.

Credits	**4.5**
Course Designation	**Trade Course**

ELEC 121: Basic Electrical Theory II

Focuses on alternating-current systems, forces and the application of Ohm's law. Covers AC and DC motors (components, circuits, and connections). Introduces various types of lamps and lighting fixtures. Focuses on grounding and bonding electrical systems; fuses and circuit breakers and their practical application and sizing; various types of contractors and relays and their practical applications.

Credits	**3**
Course Designation	**Trade Course**

ELEC 122: Basic Electrical Skills I

Further trains students in basic hardware, systems, and tasks familiar to electricians in residential construction/maintenance, including electrical devices and wiring techniques. Stresses safety precautions and appropriate National Electric Code® requirements throughout.

Credits	**4.5**
Course Designation	**Trade Course**

ELEC 231: Intermediate Electrical Theory I

Covers branch and feeder circuit load calculations; conductor selection; lighting systems, components, and controls; hazardous location equipment installation; sizing and selecting circuit breakers and fuses; switchboards, switchgear, and distribution equipment, including transformers (types, construction, connections, protection, and grounding); various commercial services; sizing conductors and overcurrent protection; voice, data, and video cabling systems; selecting, sizing, and installing motor controllers.

Credits	**3**
Course Designation	**Trade Course**

ELEC 232: Intermediate Electrical Skills I

Trains students in intermediate level hardware, systems, and tasks familiar to electricians in commercial construction/maintenance, including electrical devices and wiring techniques. Stresses safety precautions and appropriate National Electric Code® requirements throughout.

Credits	**4.5**
Course Designation	**Trade Course**

ELEC 241: Intermediate Electrical Theory II

Introduces fundamental information related to: electric circuits in health care facilities and other special locations; standby and emergency systems; fire alarm systems; specialty transformers. Covers basic electronic theory, solid-state controls and adjustable frequency drives, and HVAC controls, Introduces heat tracing and freeze protection. Also reviews motor operation and maintenance and medium-voltage terminations/splices.

Credits	**3**
Course Designation	**Trade Course**

ELEC 242: Intermediate Electrical Skills II

Further trains students in intermediate level hardware, systems, and tasks familiar to electricians in commercial construction/maintenance, including electrical devices and wiring techniques. Stresses safety precautions and appropriate National Electric Code® requirements throughout.

Credits	**4.5**
Course Designation	**Trade Course**

ELEC 251: Advanced Electrical Theory I

Explores electrical topics related to security, including access control and various intrusion detection systems. Particularly emphasizes CCTV and other video systems, including various types of equipment and their installation and configuration.

Credits	**3**
Course Designation	**Trade Course**

ELEC 252: Advanced Electrical Skills I

Trains students in advanced level hardware, systems, and tasks pertinent to industrial and utility construction/maintenance, including electrical devices and wiring techniques. Stresses safety precautions and appropriate National Electric Code® and standard utility requirements throughout.

Credits	**6**
Course Designation	**Trade Course**

ELEC 253: Advanced Electrical Theory II

Explores electrical topics related to communication, including both telecommunication and wireless communication systems, both residential and commercial. Particularly emphasizes audio systems (components, power requirements, and configuration) and broadband systems (CATV, SMATV, and MATV systems), along with the function and operation of various components.

Credits	**3**
Course Designation	**Trade Course**

ELEC 261: Advanced Electrical Theory III

Covers topics related to power transmission and distribution, including the methods used to distribute power in residential and commercial subdivisions. Introduces distribution equipment such as case breakers and switchboards. Provides an introduction to substations - the different types and functions – and the function of the control house in the substation, its components, and protective systems.

Credits	**3**
Course Designation	**Trade Course**

ELEC 262: Advanced Electrical Skills I

Further trains students in advanced level hardware, systems, and tasks pertinent to industrial and utility construction/maintenance, including electrical devices and wiring techniques. Stresses safety precautions and appropriate National Electric Code® and standard utility requirements throughout.

Credits	**6**
Course Designation	**Trade Course**

ELEC 263: Advanced Electrical Theory IV

Focuses on various tasks related to electrical construction, including switchgear and breaker maintenance - both medium- and low-voltage sources - and the safety practices involved. Covers preventive and predictive maintenance and non-destructive testing, along with other testing techniques. Introduces trenching, excavating, and boring equipment and processes.

Credits	**3**
Course Designation	**Trade Course**

ELPP 111: Basic Electricity

Provides an introduction to basic electrical theory: how voltage is produced; the use of Ohm's Law to relate current, voltage, and resistance; series and parallel circuits; electromagnetism; and DC and AC systems. Introduces basic electric power components: batteries, generators, motors, transformers, solenoids, relays, fuses, and circuit breakers.

Credits	**1.5**
Course Designation	**Trade Course**

ELPP 112: Electrical Wiring Lab

Familiarizes students with the principles of motor control and controllers and industrial wiring, including the principles of electrical safety with the use of the National Electrical Code. Provides an introduction to residential and commercial wiring along with practice in the safe construction of simple wiring circuits.

Credits	**1.5**
Course Designation	**Trade Course**

ELPP 221: Electrical Power I

Offers an introduction to electrical power generators, including the overall power generation system, exciters, voltage regulators, and generator auxiliary systems. Also introduces how to startup, run, and shut down AC generators. Covers basic AC circuits with resistive, inductive, and capacitive loads. Provides instruction in the calculation and measurement of real power, apparent power, and reactive power. Introduces single phase transformations and motors.

Credits	**2.5**
Course Designation	**Trade Course**

ELPP 231: Electrical Power II

Introduces three phase power and how it is generated. Studies Wye and Delta transformer connections with current, voltage, and power calculations for resistive, capacitive, and inductive loads. Also introduces high voltage power transmission, station service systems, and switchyard and substation components. Offers lab study of motors and generators.

Credits	**2.5**
Course Designation	**Trade Course**

ELPP 232: Introduction to Distributed Control Systems

Utilizing appropriate training equipment – the Rockwell Automation Educational Kit Software and Allen-Bradley CompactLogix Programmable Logic Controllers (PLCs) – introduces students to Distributed Control Systems (DCS) and their various parts and processes. Students develop and troubleshoot process control operating screens that interact with PLCs.

Credits	**2**
Course Designation	**Trade Course**

ELPP 251: Industrial Motor Control

Examines various types of motor control circuits including full and reduced voltage starters, man-ual and automatic controls, and sensing and control devices. Lab exercises make extensive use of fault insertion and troubleshooting techniques and include a design project. Examines solid state devices in depth.

Credits	**2.5**
Course Designation	**Trade Course**

ELPP 261: Programmable Logic Controllers

Introduces students to PLCs (Programmable Logic Controllers) using state-of-the-art training equipment. Through lab intensive instruction, students learn to program the Allen-Bradley SLC-500 PLC. Students write, program, and troubleshoot control circuits containing timers, counters, comparison circuits, bit shift operations, and sequencer functions.

Credits	**2.5**
Course Designation	**Trade Course**

HMAN 100: Fundamental Program Skills

Provides instruction in practical study skills, including the SQ4R study method, note-taking, time management, problem solving, test taking, dictionary use, research techniques, vocabulary, and reading for comprehension.

Credits	**0.5**

HMAN 120: Personal and Business Ethics

Offers a philosophical study of moral values, including rational approaches to life and how to treat others. Seeks to clarify and critically assess moral ideas with the goal of refining and enriching moral experience and judgment. Also explores how concepts of human good relate to business activities and evaluates contemporary business practices.

Credits	**3**

HMAN 150: Spanish for the Trades

Introduces students to basic Spanish usage and vocabulary relevant to their trade. Course emphasizes practical and interactive communication skills.

Credits	**1.5**

HMAN 160: Advanced Spanish for the Trades

Continues instruction in basic Spanish usage and vocabulary relevant to the student's trade. Continues emphasis on practical and interactive communication skills.

Credits	**1.5**

LCAM 111: Plant Science

Explores the construction and function of higher plants to understand plant reproductive, growth, and developmental processes and the ways plants change in response to environmental cues and stresses.

Credits	**3**
Course Designation	**Trade Course**

LCAM 113: Soils and Soil Fertility

Covers the ideal soil environment for root growth through the study of soil physical and chemical characteristics, soil organisms, amendments, and compaction.

Credits	**3**
Course Designation	**Trade Course**

LCAM 119: Landscaping Techniques I

Provides hands-on field activities to develop proficiency of tool and machine usage and landscaping best practices used in landscape maintenance and construction operations such as bed edging and mulching, pruning/shearing, plant layout, installation, and transplanting. Practices and refines landscaping techniques by working on campus landscape projects and tasks under the supervision of seniors who mentor and exhibit good working habits emblematic of a useful and valuable member of a landscaping team.

Credits	**2**
Course Designation	**Trade Course**

LCAM 120: Equipment Operation and Safety

Combines instructional and hands-on training and practice on light and heavy machines to ensure students safely and proficiently operate equipment common to the landscape trade.

Credits	**1**
Course Designation	**Trade Course**

LCAM 129: Landscaping Techniques II

Expands on LCAM 119 to learn landscape best practices, safety, and techniques used in landscape operations such as annual and groundcover layout and planting, drum-lacing, edging and mulching, weed control, fertilizing, watering, lawn mowing, and string-line trimming. Further develops proficiency in landscaping techniques and cultivates working habits and behavior emblematic of a valued and trusted landscape team member.

Credits	**2**
Course Designation	**Trade Course**

LCAM 211: Tree Plant Materials

Classroom instruction is combined with walking tours of the campus, parks, and arboreta to learn the common and botanical (Latin) names, aesthetic qualities, cultural requirements, and identification traits of trees common to landscapes in the northeastern US.

Credits	**3**
Course Designation	**Trade Course**

LCAM 221: Shrub Plant Materials

Classroom instruction is combined with walking tours of the campus and public gardens to learn the common and botanical (Latin) names, aesthetic qualities, cultural requirements and identification traits of shrubs common to landscapes in the northeastern US.

Credits	**3**
Course Designation	**Trade Course**

LCAM 231: Herbaceous Perennials

Classroom instruction combined with walking tours enable students to identify herbaceous perennials and ornamental grasses used in landscaping in the northeastern US by common and botanical (Latin) names and to describe their aesthetic qualities and cultural requirements.

Credits	**3**
Course Designation	**Trade Course**

LCAM 233: Arboriculture and Climbing

Under arborist supervision, ropes and climbing equipment are used to ascend and work in trees. Covers basic arboricultural techniques of pruning, bracing, felling, climbing and rigging equipment, and chainsaw maintenance and safety.

Credits	**1.5**
Course Designation	**Trade Course**

LCAM 235: Turfgrass Science

Covers turfgrass species identification and characteristics and the principles and practices of establishing and maintaining turfgrass species for lawns, athletic fields, golf courses, and sand-based soil systems.

Credits	**3**
Course Designation	**Trade Course**

LCAM 236: Pavers and Retaining Walls

Using Interlocking Concrete Paver Institute (ICPI) training resources and hands-on activities, students learn and practice the principles and procedures of ICPI paver and retaining wall construction to prepare them to take the ICPI certification test.

Credits	**3**
Course Designation	**Trade Course**

LCAM 238: Contemporary Landscape Design

Examines current landscape design trends such as sustainability, stormwater management, rain gardens, green roofs, and ecological landscaping through classroom instruction and enrichment field trips to landscape companies and private and public gardens.

Credits	**2**
Course Designation	**Trade Course**

LCAM 239: Advanced Landscaping Techniques I

In small groups, juniors devise and execute action plans to complete campus maintenance and construction projects using techniques and methods that maximize safety, efficiency, and quality and minimize damage to the existing environment.

Credits	**2**
Course Designation	**Trade Course**

LCAM 241: Annuals, Bulbs, and Ferns

Classroom instruction and walking tours of the campus and public parks enable students to identify by common name and describe the aesthetic qualities and cultural requirements of annuals, bulbs, and ferns commonly used in landscapes in the northeastern US.

Credits	**1.5**
Course Designation	**Trade Course**

LCAM 243: Integrated Pest Management

Prepares students to take the PA Pesticide Commercial Applicator's Core Test through instruction on the best principles and practices for managing pests of plants with a special emphasis on the proper handling and application of chemicals to protect the applicator, the public, and the environment.

Credits	**1.5**
Course Designation	**Trade Course**

LCAM 244: Landscape Design Fundamentals

A process-oriented approach using lectures and project assignments covers basic principles and practices of landscape design to enable a student to perform a site analysis, to prepare a base map, and to create a landscape design for a residential property using Dynascape software.

Credits	**3**
Course Designation	**Trade Course**

LCAM 245: Turfgrass Pest Management

Prepares students to take the PA Pesticide Commercial Applicator's Category 7 (Turfgrass) Test through instruction on the best principles and practices for managing weed, insect, and disease pests of turfgrass with a special emphasis on chemical control methods.

Credits	**1.5**
Course Designation	**Trade Course**

LCAM 249: Advanced Landscaping Techniques II

Building on LCAM 239, small groups of students devise and execute action plans to complete campus maintenance and construction projects using techniques and methods that maximize safety, efficiency, and quality and minimize damage to the existing environment.

Credits	**2**
Course Designation	**Trade Course**

LCAM 251: Landscape Design Software and Presentation

Focuses on landscape software (such as ProLandscape, Google SketchUp, Dynascape Design Color) to create 3D and realistic visualizations that effectively communicate landscape designs to clients.

Credits	**3**
Course Designation	**Trade Course**

LCAM 252: Ornamental Pest Management

Prepares students to take the PA Pesticide Commercial Applicator's Category 6 (Ornamentals) Test through instruction on the best principles and practices for managing weed, insect, and disease pests of ornamental plants with a special emphasis on chemical control methods.

Credits	**1.5**
Course Designation	**Trade Course**

LCAM 253: Natural Stone and Brick Hardscaping

The ancient techniques and secrets of dry-laid stonework, stone cutting, mortared stonework, steps, walks, and patios made of natural stone and gravel and clay bricks are covered through class instruction and hands-on activities.

Credits	**3**
Course Designation	**Trade Course**

LCAM 259: Field Supervision I

Seniors direct, train, and mentor freshmen as they devise and execute action plans to complete campus maintenance and construction projects that they are assigned to manage during the semester.

Credits	**2**
Course Designation	**Trade Course**

LCAM 261: Applied Residential Landscape Design

Students create a computer-generated CAD landscape design and estimate that is responsive to the needs of a "real-life" client and present their work to the class and the client for review.

Credits	**3**
Course Designation	**Trade Course**

LCAM 262: Landscape Estimating and Contract Administration

Explores the basis of contracts and the use of landscape contract drawings and specification documents to create project estimates and bids using quantity take-offs and material, equipment, labor, and overhead costs. Also examines methods to manage landscape projects.

Credits	**1.5**
Course Designation	**Trade Course**

LCAM 263: Lighting, Irrigation, and Pond Construction

Classroom discussions and demonstrations cover the design, installation, and pricing of landscape low-voltage lighting, lawn and plantings irrigation, and pond and waterfall construction.

Credits	**3**
Course Designation	**Trade Course**

LCAM 265: Capstone Project Design

To showcase their skills and knowledge learned over two years, seniors develop a landscape project design and proposal for the Williamson campus that combines function, aesthetics, and ecological sustainability elements. The proposal, which includes justification, landscape design, construction drawings, project budget, and construction schedule, is presented to Williamson administration for revision and approval for construction during the Spring semester.

Credits	**2**
Course Designation	**Trade Course**

LCAM 269: Field Supervision II

Provides additional opportunities for seniors to direct, train, and mentor freshmen as they devise and execute action plans to complete campus maintenance and construction projects.

Credits	**1**
Course Designation	**Trade Course**

LCAM 271: Arboriculture Techniques

The International Arboriculture Association's (ISA) Certified Arborist Training Manual is used along with hands-on activities to cover arboriculture best practices/safety and to prepare students to take the ISA Certified Arborist Exam.

Credits	**1.5**
Course Designation	**Trade Course**

LCAM 272: Surveying and Grading

Class instruction and hands-on field exercises cover the basics of site surveying and principles of grading through fieldwork exercises that use a builder's level to determine site leveling, elevations, and grades

Credits	**1.5**
Course Designation	**Trade Course**

LCAM 273: Capstone Project

Building on LCAM 265, seniors refine and finalize the plan, design, and construction of their project.

Credits	**4**
Course Designation	**Trade Course**

MACH 111: Basic Machine Shop Theory I

Offers an introduction to the occupation and industry of machinists, tool and die makers, and related specialists. Includes accident prevention, basic metal properties, and development of knowledge and competency in the safe utilization, operation, and maintenance of hand tools, portable power tools, measuring instruments, wire wheels and buffers, belt sanders, drilling machines, cutoff and contour machines, pedestal grinders, tool grinders, and lathes, as well as in the use of lubricants and coolants.

Credits	**3**
Course Designation	**Trade Course**

MACH 112: Basic Machine Shop Practice I

Through hands-on training and shop projects, students learn the skills required of machinists and workers in directly related crafts, including the safe utilization, operation, and maintenance of hand tools, portable power tools, measuring instruments, cutoff and contour machines, pedestal grinders, tool grinders, and lathes.

Credits	**4.5**
Course Designation	**Trade Course**

MACH 121: Basic Machine Shop Theory II

Covers accident prevention and the safe utilization, operation, and maintenance of lathes (part two), Bridgeport mills, shapers, planers, vertical mills, horizontal mills, precision instruments, and surface grinders.

Credits	**3**
Course Designation	**Trade Course**

MACH 122: Basic Machine Shop Practice II

Through hands-on training and shop projects, students learn the skills required for safe utilization, operation, and maintenance of lathes, Bridgeport mills, shapers and planers, vertical mills, horizontal mills, precision instruments, and surface grinders.

Credits	**4.5**
Course Designation	**Trade Course**

MACH 231: Intermediate Machine Shop Theory I

Introduces the principles of foundry work (forging and casting), cutting speeds and feeds, surface grinding, chords and bolt circle calculations, milling machines, and the use of the machinery handbook.

Credits	**3**
Course Designation	**Trade Course**

MACH 232: Intermediate Machine Shop Practice I

Further develops skills previously introduced and provides training in turning, threading, knurling, milling, surface grinding, heat treating, blueprint reading, and inspection.

Credits	**3.5**
Course Designation	**Trade Course**

MACH 233: Lean Manufacturing and Quality Control

Introduces concepts of Lean Manufacturing, waste reduction in manufacturing, Six Sigma concepts on reducing variation in manufacturing, and Total Productive Maintenance (the process of using machines, equipment, employees, and supporting processes to maintain and improve the integrity of production and the quality of systems).

Credits	**2**
Course Designation	**Trade Course**

MACH 239: General Industry Safety

Provides training in safety topics associated with workplace hazards, including the recognition, avoidance, abatement, and prevention of workplace hazards, and provides overview information regarding OSHA, including workers' rights and employer responsibilities. Qualified students will receive the OSHA 30 card at the completion of the course.

Credits	**2**
Course Designation	**Trade Course**

MACH 241: Intermediate Machine Shop Theory II

Covers tool and cutter grinding, gear manufacturing and nomenclature, electrical discharge machining (EDM), geometric tolerances, indexing, dividing heads, and an introduction to numerical control.

Credits	**3**
Course Designation	**Trade Course**

MACH 242: Intermediate Machine Shop Practice II

Continues MACH 232 with additional shop projects designed to introduce new skills and enhance previously learned skills. Increased emphasis is placed on proficiency and productivity.

Credits	**4**
Course Designation	**Trade Course**

MACH 252: Advanced Machine Shop Practice I

Emphasizes individual shop projects involving many phases of machining, machine rebuilding, production set-ups, and tool and die making. Students serve as shop foreman on a rotating basis.

Credits	**3**
Course Designation	**Trade Course**

MACH 262: Advanced Machine Shop Practice II

Offers additional shop work with individual hands-on projects involving various phases of machining, machine rebuilding, production set-ups, and tool and die making. Students serve as shop foreman on a rotating basis.

Credits	**3**
Course Designation	**Trade Course**

MACH 263: Hydraulics and Pneumatics

Introduces basic principles of industrial hydraulics and pneumatics, including types of fluids and their use to transmit power throughout various circuits. Examines pumps, compressors, circuit components and their application and control, and covers such elements as flow, pressure, force, temperature, torque, speed, horsepower, efficiency, fluid, and system conditioning, as well as component and circuit performance, selection, and specification. Emphasizes the theoretical and practical aspects of each topic.

Credits	**2.5**
Course Designation	**Trade Course**

MACH 271: Additive Manufacturing I

A detailed overview of the field of additive manufacturing/3D printing. Emphasizes foundational concepts, processes, materials, and the use of CAD related to the processes.

Credits	**2**
Course Designation	**Trade Course**

MACH 272: Robotic Manufacturing I

A detailed overview of the field of robotic manufacturing/automated systems technology. Emphasizes concepts, processes, materials, and programming for automated manufacturing techniques. Includes robot terminology, communications, applications, and safety.

Credits	**2**
Course Designation	**Trade Course**

MACH 273: Additive Manufacturing II

Addresses more complex topics in the field of additive manufacturing/3D printing. Emphasizes complex processes, materials, and the use of CAD related to the processes. Includes troubleshooting techniques and advancements being made in the field.

Credits	**2**
Course Designation	**Trade Course**

MACH 274: Robotic Manufacturing II

An in-depth, continuation of MACH 272, explores more complex topics in the field of robotic manufacturing/automated systems technology. Emphasizes complex processes, materials, and various types of automation. Explores troubleshooting techniques and advancements being made in the field.

Credits	**2**
Course Designation	**Trade Course**

MACH 275: EDM

A comprehensive introduction to electric discharge machining/ subtractive manufacturing method for machining, this course covers: EDM definitions and processes, benefits and challenges associated with EDM, and applications.

Credits	**2**
Course Designation	**Trade Course**

MASN 111: Basic Masonry Theory I

Studies fundamental information related to the masonry industry, including: safe work practices; basic hand and power tools; brick and block sizes, nomenclature, and characteristics; mortar types, characteristics, and mixing procedures; and related equipment.

Credits	**2**
Course Designation	**Trade Course**

MASN 112: Basic Masonry Skills I

Provides practical experience in the basic skills related to the masonry industry, including: mixing mortar, stocking block and brick, scaffold building, spreading bed joints, buttering head joints, laying block to the line, striking mortar joints, and building corners, leads, and straight walls with concrete block.

Credits	**5**
Course Designation	**Trade Course**

MASN 121: Basic Masonry Theory II

Studies fundamental information related to the masonry industry, including: plan reading, estimating, moisture control (including cleaning, pointing, and caulking). Provides instruction in safe work practices and masonry-related job opportunities.

Credits	**2**
Course Designation	**Trade Course**

MASN 122: Basic Masonry Skills II

Provides continued reinforcement and practical experience in the basic skills related to the masonry industry, including: spreading bed joints and buttering head joints for brick, laying brick to the line, striking mortar joints, and building corners, leads, and straight walls with brick.

Credits	**5**
Course Designation	**Trade Course**

MASN 231: Intermediate Masonry Theory I

Studies fundamental information related to the concrete and cement industry, including: the ingredients and mixing of concrete; interpreting specifications and understanding testing procedures for concrete; the tools used in forming, placing, and finishing concrete; and estimating and repairing concrete.
Also discusses arc welding and oxyacetylene cutting.

Credits	**2**
Course Designation	**Trade Course**

MASN 232: Intermediate Masonry Skills I

Provides continued reinforcement and practical experience in the basic skills related to laying brick and block. Provides practical experience in the basic skills related to the concrete masonry industry, including: constructing forms; placing, leveling, finishing, and curing concrete.

Credits	**5**
Course Designation	**Trade Course**

MASN 241: Intermediate Masonry Theory II

Offers further study in fundamental information related to the concrete and cement industry, including: plan reading and estimating of concrete; preparation of substrate and forms; placing, leveling, finishing, and curing concrete. Discusses finishing floors, steps, sidewalks, and patios; constructing joints; and protection of concrete.

Credits	**2**
Course Designation	**Trade Course**

MASN 242: Intermediate Masonry Skills II

Provides continued reinforcement and practical experience in the basic skills related to laying brick and block and in skills related to the concrete masonry industry.

Credits	**4**
Course Designation	**Trade Course**

MASN 251: Advanced Masonry Theory I

Offers a study of advanced topics in the masonry industry, including: specialty products such as customized masonry units, glass block, sills, lintels, and copings. Technical discussion includes the function and location of control joints in walls and factors to consider in the construction of chimneys and fireplaces. Also discusses stone masonry, to include various types of stone and bonding styles. Introduces floor and wall tile installation, as well as stone, slate, marble, and granite panels.

Credits	**3**
Course Designation	**Trade Course**

MASN 252: Advanced Masonry Skills I

Provides shop practice and on-the-job experience in skills related to the masonry industry: the layout and construction of various types of arches; the construction of stone walls in rubble and ashlar patterns; the layout and construction of conventional and heat-circulating fireplaces.

Credits	**6**
Course Designation	**Trade Course**

MASN 261: Advanced Masonry Theory II

Credits	**3**

MASN 261: Advanced Masonry Theory II

Offers primarily an in-depth explanation of how to take-off material quantities and other types of masonry, to include labor costs, overhead, contingencies, and then build profit into estimates. Also explores the topic of concrete reinforcement and ceramic tile installation.

Credits	**3**
Course Designation	**Trade Course**

MASN 262: Advanced Masonry Skills II

Provides practical experience to improve masonry skills already acquired, with an emphasis on production and the application of theory principles of planning and supervision as applied to real job situations. Involves construction work on campus restoration and improvement projects along with optional involvement in off-campus masonry construction projects.

Credits	**6**
Course Designation	**Trade Course**

MASN 263: Topics in Advanced Masonry

Provides instruction on state-of-the-art advancements, trends, and future-forward concepts in masonry as they relate to theory, skills, and leadership in the field.

Credits	**3**
Course Designation	**Trade Course**

MATH 110: Fundamentals of Technical Mathematics

Reviews scientific notation, rounding numbers, fractions, and operations with polynomials and powers. Covers the metric system; equations (including the use of the distributive property and fractions); ratios and proportions; formula evaluation and arrangement; basic right triangle trigonometry; and solution of oblique triangles.

Credits	**2**

MATH 120: Basic Algebra and Geometry

Offers a study of angles and angle measure; triangles; polygons and their areas and perimeters; circles; geometric solids; powers and roots; and products and factoring.

Credits	**2**

MATH 140: Advanced Algebra I

Reviews equations and covers solving and graphing linear and simultaneous equations; further develops ratios, proportions, and formulas, including variation; expands on exponents, negative and zero.

Credits	**2**

MATH 150: Advanced Algebra II

Examines fractional exponents; imaginary and complex numbers; solving irrational equations; checking for extraneous roots; solving and graphing quadratic equations. Reviews complex trigonometric problems as they apply to practical situations in the trades.

Credits	**2**

MATH 160: Advanced Technical Mathematics

Exposes students to approaches on advanced functions, limits, derivatives, antiderivatives, and integration. Covers applications with algebraic implants, geometric applications, graphical solutions, and areas/volumes under curves.

Credits	**2**

MECH 281: Fabrication and Rigging I

Provides foundational information regarding the processes of fabrication and rigging to include: terminology, practices, processes, safety, equipment, and inspection.

Credits	**2.5**
Course Designation	**Trade Course**

MECH 282: Industrial Maintenance I

Provides a foundational and detailed overview of industrial maintenance. Emphasizes industry competencies related to machining and repair, including safety, processes, procedures, tools, and process control.

Credits	**2.5**
Course Designation	**Trade Course**

MECH 283: Power Transmission and Alignment I

Provides foundational and detailed overview of transmission and alignment to include processes, procedures, regulation, and operations.

Credits	**2**
Course Designation	**Trade Course**

MECH 284: Electrical Controls and Wiring I

Provides foundational information related to the interconnection of systems and/or devices. Emphasizes terminology, tools, techniques, and troubleshooting specifically for machining.

Credits	**2**
Course Designation	**Trade Course**

MECH 285: Industrial Maintenance II

Building on information from MECH 282, gives a more detailed and complex coverage of industrial maintenance for machining. Emphasizes industry competencies related to machining, including safety, processes, procedures, tools, and process control. Also includes future forward developments in the field.

Credits	**2.5**
Course Designation	**Trade Course**

MECH 286: Power Transmission and Alignment II

Building on elements of MECH 283, provides a detailed and more complex coverage of topics related to transmission and alignment, including processes, procedures, regulation, and operations. Also includes emphasis on future forward developments in the field and complex troubleshooting.

Credits	**2.5**
Course Designation	**Trade Course**

MECH 287: Electrical Controls and Wiring II

Building on concepts covered in MECH 284, provides complex information related to the interconnection of systems and/or devices. Emphasizes terminology, tools, techniques, and troubleshooting specifically for machining and Machine Repair. Also includes future forward developments in the field and complex troubleshooting techniques.

Credits	**2.5**
Course Designation	**Trade Course**

MECH 288: Advanced Hydraulics and Pneumatics

Expands on the introduction to the fundamentals of hydraulics and pneumatics principles provided in MACH 263. Through the use of trainers and other hands-on lab activities, instructs the learner to recognize and understand many different components used in industrial hydraulics and pneumatics. Emphasizes complex theoretical and practical problem solving related to fluid/air power.

Credits	**2**
Course Designation	**Trade Course**

MECH 289: Fabrication and Rigging II

Builds on foundational information regarding the processes of fabrication and rigging in MECH 281. Emphasizes future forward developments in the field and in technology related to the field, as well as troubleshooting.

Credits	**2**
Course Designation	**Trade Course**

METL 150: Metals Survey

Presents basic metal and metallurgical information to seniors in the Power Plant Technology program. Topics include mechanical and physical properties of metal; production, classification, and recommended uses of steel, cast iron, alloys, stainless steel, and non-ferrous metals; heat treatment; and basic, welding, and powder metallurgy. Includes a foundry and forging seminar.

Credits	**0.5**

METL 251: Metallurgy I

Covers metallurgical theory and practice, including hardening, hardness testing, specimen preparation, and recognition and analysis of crystal structures using metallographic equipment.

Credits	**2**
Course Designation	**Trade Course**

METL 261: Metallurgy II

Examines the theory and practical applications of metallurgy through involvement in class presentations and laboratory exercises, including laboratory projects that consist of a comparison of the effects of tempering on carbon-based tool steels and preparation of tensile specimens utilizing tensile testing equipment.

Credits	**2**
Course Designation	**Trade Course**

PRPL 111: High Pressure Boilers

Introduces basic principles of stationary engineering and gives an overview of the school's Power Plant operations, with special emphasis on high pressure boilers, job safety, and operational efficiency.

Credits	**2**
Course Designation	**Trade Course**

PRPL 112: Auxiliary Plant Operator Practice I

Provides experience in the practical skills required of power plant workers, with emphasis on serving as a shift operator/helper in the college's Power Plant, plus assisting with the maintenance of school utilities, practicing good housekeeping in the workplace, and observing safety rules in all work assignments. Thoroughly covers the Power Plant Student Manual.

Credits	**3**
Course Designation	**Trade Course**

PRPL 121: Basic Power Plant Theory

Introduces basic utility boilers, including natural circulation, controlled circulation, and once-through designs. Discusses startup, shutdown, and normal operation, and covers air and flue gas flow paths and steam and water flow paths.

Credits	**2**
Course Designation	**Trade Course**

PRPL 122: Auxiliary Plant Operator Practice II

Provides for continued development of fundamental equipment maintenance skills with a concentration on carrying out electrical and mechanical maintenance procedures, replacing faulty pipes and pipe fittings, serving as shift operator/helper in the college's Power Plant, and demonstrating knowledge of safety and accident prevention rules. Comprehensively covers the school's power plant equipment operating procedures.

Credits	**4**
Course Designation	**Trade Course**

PRPL 123: Boiler Chemistry

Introduces the basic principles of water chemistry as applied to boilers and cooling towers. Students learn about the properties of water and about the changes that certain substances in the plant go through when exposed to water. Specific attention is directed to the structure of elements and compounds, chemical reactions, the basics of raw water treatment, and the application of water chemistry to plant systems.

Credits	**1.5**
Course Designation	**Trade Course**

PRPL 124: Power Plant Auxiliaries

Exposes students to power plant systems and processes, including fluid flow in the feedwater system, heat transfer in the heat exchangers, feedwater heaters and deaerators, compressors and fans, condensers, circulating water, and pumps.

Credits	**1.5**
Course Designation	**Trade Course**

PRPL 231: Plant Cycle and Systems

Studies the physical characteristics of water and steam. Reviews the plant steam cycle and how the properties of water and steam change as fluid flows through the various plant cycle components. Uses steam tables with the thermodynamics of enthalpy change in the boiler and turbine, along with Mollier diagram to study the properties of steam.

Credits	**2**
Course Designation	**Trade Course**

PRPL 232: Plant Operator Practice I

Assists in further improving basic skills, including boiler water testing, and prepares students for more advanced responsibilities in maintaining the college's utilities and in supervising power plant shifts and student helpers.

Credits	**3**
Course Designation	**Trade Course**

PRPL 241: Boilers and Combustion

Studies typical utility boilers, fuels, and combustion, including heat value, moisture content, sulfur content, fuel handling, and ash removal systems. Using the college's power plant, students will: investigate natural gas and fuel oil combustion; calculate boiler efficiency and electric generation efficiency; perform flue gas analysis while burning fuel oil and natural gas; measure stack velocities; and calculate heat rate through the steam turbine plant cycle.

Credits	**2**
Course Designation	**Trade Course**

PRPL 242: Plant Operator Practice II

Emphasizes improvement of basic skills learned in previous courses and develops advanced skills in boiler repairs, industrial electrical system maintenance, and operation and maintenance of boiler auxiliaries, pumps, and steam traps. Includes supervising other student workers in performing assigned duties relating to plant operations.

Credits	**4**
Course Designation	**Trade Course**

PRPL 243: Introduction to Process Instrumentation and Automatic Controls

Introduces the basic principles of process measurement parameters such as flow, pressure, level, and temperature. Lab exercises augment classroom theory.

Credits	**3**
Course Designation	**Trade Course**

PRPL 244: Boiler Simulator Lab

Using a simulator that represents a 600MW power plant, students function as operators, performing cold start-ups, shut downs, regulating plant operations, and responding to equipment failures.

Credits	**2**
Course Designation	**Trade Course**

PRPL 245: Gas Turbines and Combined Cycle

Introduces the principles, basic fundamentals, and operation of a combined cycle power plant. Discusses all major systems and functions of a combined cycle plant, including the basic operation of a gas turbine, heat recovery steam generator (HRSG), steam turbine and balance of plant systems.

Credits	**1.5**
Course Designation	**Trade Course**

PRPL 251: Boiler Design and Environmental Protection

Explores the many types of utility boilers, including pulverized coal, fluidized bed boilers, cyclone and stoker boilers, and nuclear-powered units. Emphasizes environmental protection and plant protection.

Credits	**2**
Course Designation	**Trade Course**

PRPL 252: Plant Supervisor Practice I

Advances operational skills learned in previous courses and assists in the development of supervision and leadership skills in a power plant setting by assigning each senior a term of responsibility for serving as student chief engineer of operations, acting as supervisor of other student workers in the maintenance of campus utilities; setting priorities and scheduling work assignments as part of plant maintenance foreman duties; and working weekends and holiday shifts as senior operator in the college's Power Plant.

Credits	**4**
Course Designation	**Trade Course**

PRPL 253: Advanced Process Instrumentation and Automatic Control

Examines on-line boiler control concepts, including combustion, feedwater, header pressure, oxygen percent, power demand, and other processes, with special attention to high pressure (above 15 psi.) steam boilers as applied to industrial power generation and process heat supply. Emphasizes on-line boiler control procedures and typical applications that illustrate outcomes associated with such procedures. Includes lab experiments in drum level and steam process control.

Credits	**2.5**
Course Designation	**Trade Course**

PRPL 257: Hydraulics, and Pneumatics

Introduces basic fluid flow energy units, parameters, and calculations, including: types of fluid energy (kinetic, potential, and pressure), Extended Bernoulli equation, Reynolds number, types of flow (laminar, turbulent, and critical), conservation of mass, relative roughness, friction factor, major and minor pipe losses, along with flow measurement devices. Introduces basic principles of industrial hydraulics and pneumatics, including types of fluids and their use to transmit power throughout various circuits. Examines pumps, compressors, circuit components and their application and control, and covers such elements as flow, pressure, force, temperature, torque, speed, horsepower, efficiency, fluid and system conditioning, as well as component and circuit performance.

Credits	**2.5**
Course Designation	**Trade Course**

PRPL 261: Turbines

Thoroughly discusses steam turbine design, construction, and operation. Introduces turbine control and instrumentation, along with gas turbines, diesel generators, and combined cycles.

Credits	**2**
Course Designation	**Trade Course**

PRPL 262: Plant Supervisor Practice II

Emphasizes continued student development and refinement of practical skills in power plant operations, in the performance of maintenance tasks to improve and upgrade college facilities, and in the exercise of supervisory responsibilities involving underclassmen assigned to maintenance and operation projects.

Credits	**4.5**
Course Designation	**Trade Course**

PRPL 263: Introduction to Thermodynamics

Offers a basic study of the theories of thermodynamics, including application to unit systems, heat transfer, and tables of properties. Emphasizes operational problem-solving as well as understanding the steam cycles throughout the power plant in relation to the principles of thermodynamics.

Credits	**2**
Course Designation	**Trade Course**

PRPL 265: Introduction to Statics

Studies force systems and the conditions of equilibrium for particles and rigid-bodies. Introduces the basic principles of drawing free body diagrams, analysis of forces, distributed loads and moments, as well as calculating centers of gravity and moments of inertia when applied to engineering system components and structures.

Credits	**1.5**
Course Designation	**Trade Course**

PRPL 266: Introduction to Strength of Materials

Studies the basic concepts in strength of materials under normal conditions compared to shear, bending, and bearing stresses. Introduces the study of stress-strain relationships, the design properties of materials, and the practical application of structure formulas for sizing bolts, rivets, shafts, beams, columns, and pressure vessels with an emphasis on understanding load, sheer, and bending moment diagrams.

Credits	**1.5**
Course Designation	**Trade Course**

PSCI 110: Physical Science I - Chemistry

Examines measurement using the English and metric systems, with special attention to accuracy and precision and the principles of measuring physical quantities. Also includes matter and energy concepts, simple density and displacement problems, chemical structure, equations and neutralization reactions, solutions, stoichiometry, acids, bases, and salts, using ion theory.

Credits	**3**

PSCI 120: Physical Science II - Physics

Offers an introduction to the study of vector and static equilibrium forces and composition and resolution of parallel forces. Explains and demonstrates applications of friction and center of gravity, mechanics of motion, Newton's laws, impulse, momentum, gravitation, work power, kinetic and potential energy, and principles of simple machines.

Credits	**3**

WELD 131: Introduction to Welding

Provides students with the knowledge and skills required to safely setup and operate oxyacetylene and electric arc welding equipment.

Credits	**0.5**

WELD 132: Welding Fundamentals I

Provides students with the knowledge and skills required to safely setup and operate oxyacetylene and electric arc welding equipment. Provides demonstration in oxyacetylene cutting and electric arc welding of various joint configurations to industry standards.

Credits	**1.5**

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