



2017 - 2018 CATALOG

ACCREDITATIONS



Accrediting Commission of Career Schools and Colleges

Middle States Commission on Higher Education (MSCHE)
3624 Market Street, Philadelphia, PA 19104
Candidacy Status

American Veterinary Medical Association (AVMA),
Veterinary Technology Program

Commission on Accreditation in Physical Therapy Education (CAPTE)

Joint Review Committee on Education in Radiologic Technology (JRCERT),
20 North Wacker Drive, Suite 2850 Chicago, IL 60606-3182
(312) 704-5300 e-mail: mail@jrcert.org
Radiologic Technology Program

National Automotive Technicians Education Foundation, Inc. (NATEF),
Automotive Technology Program

APPROVALS

Pennsylvania Department of Education, State Board of Education
United States Department of Education, Title IV Assistance
Pennsylvania Higher Education Assistance Agency (PHEAA)
Office of Vocational Rehabilitation
Veterans Training

American Design Drafting Association (ADDA) International
Curriculum Certification, Drafter Level,
Architectural Drafting & Design Technology Program

REGISTRATIONS

United States Department of Agriculture

www.johnson.edu

3427 NORTH MAIN AVENUE • SCRANTON • PENNSYLVANIA 18508-1495
(570) 342-6404 (800) 293-9675

About This Catalog

This catalog is a primary reference source for students, faculty, staff, and the community and will answer many, if not all, questions regarding Johnson College.

Johnson College reserves the right, in its sole judgment, to make changes of any nature in its programs, calendar, or academic schedule whenever it is deemed necessary or desirable. Changes may include course content, scheduling of classes, and canceling of classes and other academic activities. The College will make every effort to provide students with timely notification of such changes.

This catalog does not establish a contractual relationship but summarizes current information regarding the calendar, admissions, degree requirements, fees, regulations, and course offerings. The information contained in this catalog is correct at the time of printing. Changes in policy, requirements, and regulations may occur during the year.

Non-discrimination Policy

Johnson College welcomes applications from prospective students interested in pursuing an intensive technical or clinical program of education.

Johnson College promotes a campus environment emphasizing the dignity and worth of all students, staff, and visitors that is free of discrimination. Johnson College does not discriminate against an individual's age, color, disability, gender identity, marital status, national origin, race, religion, sex, or sexual orientation, or any other legally protected class in admission, treatment, access to, or employment in its programs or activities. For questions or concerns regarding Title IX, please contact the Senior Director of Organizational Development. For questions or concerns regarding Section 504 of the Rehabilitation Act of 1973, please contact the Counselor/Manager of Disability Services.

Accreditation/Approvals

Johnson College is accredited by the Accrediting Commission of Career Schools and Colleges (ACCSC.) The Pennsylvania Department of Education, State Board of Education, has approved Johnson College as a two-year college.

Johnson College is a Candidate for Accreditation by the Middle States Commission on Higher Education (MSCHE), 3624 Market Street, Philadelphia, PA 19104. (267) 284-5000). Candidate for Accreditation is a status of affiliation with a regional accrediting commission which indicates that an institution has achieved initial recognition and is progressing toward, but is not assured of, accreditation. It has provided evidence of sound planning, appears to have the resources to implement the plans, and appears to have the potential for reaching its goals within a reasonable time.

The Automotive Technology Program is accredited by the National Automotive Technicians Education Foundation, Inc. (NATEF)

The Radiologic Technology Program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT)
20 North Wacker Drive, Suite 2850, Chicago, IL 60606-3182
Phone: (312)704-5300
E-mail: mail@jrcert.org
Website: www.jrcert.org

The Veterinary Technology Program is accredited by the American Veterinary Medical Association (AVMA)

The Architectural Drafting & Design Technology program has curriculum approval at the Drafter level by the American Design Drafting Association International (ADDA).

The Physical Therapist Assistant Program at Johnson College is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE)
1111 North Fairfax Street, Alexandria, Virginia 22314; telephone: 703-706-3245;
email: accreditation@apta.org; website: <http://www.capteonline.org>.

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O. S. Johnson Technical Institute t/a Johnson College

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2017-2018 ACADEMIC CALENDAR

Fall Semester 2017

Aug. 21	Semester Begins	Monday
Sept. 4	Labor Day, College Closed	Monday
Oct. 16	Fall Break (no classes)	Monday
Oct. 27	Course Drop Date	Friday
Nov. 10	Veterans Day (observed) College Closed	Friday
Nov. 23-27	Thanksgiving Break, College Closed	Thurs. thru Mon.
Dec. 10	Classes / Semester Ends	Sunday
Dec. 15	Commencement	Friday

Spring Semester 2018

Jan. 8	Semester Begins	Monday
Jan. 15	Martin Luther King Day, College Closed	Monday
Feb. 19	Presidents Day, College Closed	Monday
March 5-11	Spring Break, No Classes	Mon. thru Sun.
March 23	Course Drop Date	Friday
Mrch 30-Aprl 2	Break, College Closed	Fri. thru Mon.
May 6	Classes / Semester Ends	Sunday
May 11	Commencement Rehearsal	Friday
May 12	Commencement	Saturday

2018-2019 ACADEMIC CALENDAR

Fall Semester 2018

Aug. 27	Semester Begins	Monday
Sept. 3	Labor Day, College Closed	Monday
Oct. 8	Fall Break (no classes)	Monday
Oct. 26	Course Drop Date	Friday
Nov. 12	Veterans Day (observed), College Closed	Monday
Nov. 22-26	Thanksgiving Break, College Closed	Thurs. thru Mon.
Dec. 11	Semester Ends	Tuesday
Dec TBD	Commencement	TBD

Spring Semester 2019

Jan. 22	Semester Begins	Tuesday
Feb. 18	Presidents Day, College Closed	Monday
March 11-17	Spring Break, No Classes	Mon. thru Sun.
March 22	Course Drop Date	Friday
April 19-22	Break, College Closed	Fri. thru Mon.
May 14	Semester Ends	Tuesday
May TBD	Commencement Practice	Friday
May TBD	Commencement	TBD

History of Johnson College

Johnson College, a two-year technical college, was founded by Orlando S. Johnson, a wealthy coal baron in the Scranton area who died in 1912. Mr. Johnson left the bulk of his estate to establish and maintain a trade school and his purpose became the mission of the College as an institution “*where young men and women can be taught useful arts and trades that may enable them to make an honorable living and become contributing members of society.*”

A board of directors was created and a 41-acre tract in Scranton known as the William H. Richmond estate was selected as the site for the new enterprise. Opening in 1918, the school admitted young men and women who had completed a minimum of eight years of school and were 14 years old.

In 1964, the school became a post-secondary institution requiring applicants to be high school graduates or to have equivalency certificates. The name of the institution was changed from the Johnson Trade School to the Johnson School of Technology in 1966. The school was incorporated as a non-profit corporation in 1967, and in 1968 it was licensed by the Commonwealth of Pennsylvania Bureau of Private Trade Schools. Approval to award a degree of Associate in Specialized Technology came in 1974, with accreditation by the National Association of Trade and Technical Schools (NATTS) following in 1979.

In 1985, the name of the College was changed to Johnson Technical Institute; the three-year Associate in Specialized Technology degree programs were changed to two-year programs in 1987.

Responding to the continuing technological changes in society, the board, administration, faculty, staff and students conducted an intense two-year self-study, beginning in 1994, to assess the institution’s strengths and weaknesses. The study led to a formal application to the Commission on Higher Education for status as a two-year college. The Pennsylvania Department of Education approved the application of Johnson Technical Institute as a two-year college in 1997; the change of name to Johnson College was instituted in 2001.

The graduating class of 1998 was the first class to receive either an Associate in Applied Science (A.A.S.) degree or an Associate in Science (A.S.) degree.

Continuing with the expansion of technology programs, a Veterinary Technology program was introduced in 1994. Clinical classes were held off-campus until the erection of a 6,500 square foot Science Center on campus was completed. The program received full accreditation from the American Veterinary Medical Association (AVMA) for the

fall semester of 2000. In January, 2004 the College opened the Animal Care Center as a teaching facility to enhance the Veterinary Technology educational experience. In 1995, Electrical Construction & Maintenance Technology was added to the curriculum, and the Bureau of Private Licensed Schools approved the Diesel Truck Technology program in November of 1996.

A Computer Information Technology program that specializes in enterprise computer networking was approved by the Commission on Higher Education in 2000, and a curriculum in Radiologic Technology received the Commission's approval for the fall, 2002 semester. Logistics & Supply Chain Management Technology program was approved as a program offering for the fall, 2006 semester and the Heating, Ventilation & Air Conditioning Technology program was approved for the fall, 2009 semester. A Welding Certificate program was approved in the spring of 2012 with major courses taught at a satellite location. A Health Science Technology Center was built to accommodate future allied health programs. After construction, the Physical Therapist Assistant Program was approved for the fall of 2013. A Business Management Associate in Applied Science degree – Project Management track was approved in the summer of 2014 which corresponded to a name change of the Logistics & Supply Chain Management Program to Business Management – Logistics & Supply Chain Management track which occurred during the same timeframe. In the fall of 2015, the Advanced Manufacturing Engineering Technology Program introduced. This new program provided an opportunity to remodel a large segment of Woolworth Hall where the program is based.

Today, approximately 400 students pursue degrees and certificates in 17 different trade, technical, or clinical programs. The College's twelve buildings include a library, gymnasium, physical fitness center, classrooms, shops, laboratories, administrative offices and a student apartment complex for on-campus living.

Over the years, Johnson College has served the region by providing programs of technical education and continually evaluates its programs to meet the technology needs of society. This evaluation process is assisted by the Program Advisory Committees of each program area, consisting of regional business and community leaders who meet several times during the year to advise the College on curriculum content, length of programs, and current materials and equipment. They also review placement and retention statistics. The College has maintained the initial intent of Mr. Johnson with a professional and dedicated staff to ensure up-to-date training that prepares graduates to readily step into entry-level positions in business and industry.

The current student body is comprised of approximately 70% males and 30% females. The students spend 66% of their time in technology courses and the remainder in general education classes. The College has an extensive program of internships, cooperative

education and practicums with a variety of businesses and professional organizations. One of the important success factors of Johnson College is a consistently high employment rate of students within a short time after graduation.

Today, Johnson College is a valuable resource for the changing technological needs of our region.

Mission Statement

Johnson College provides real-world hands-on learning in a caring environment and prepares graduates to enter into and advance in their career.

Vision Statement

Innovating. Partnering. Advancing.

Institutional Goals

Foster Academic Innovation & Excellence
Enhance Student Success
Promote Equity & Inclusion
Ensure Stewardship & Growth of Resources

Shared Values

INITIATE: Have the GUTS to take risks, the GRIT to demonstrate your passion and feel the GLORY of your achievement.

PARTICIPATE: Have the GUTS to speak up, the GRIT to get involved and feel the GLORY of what we can do together.

ENDURE: Have the GUTS to overcome challenges, the GRIT to go the distance and feel the GLORY of our resilience.

The institutional goals and shared values of our organization are those on which we build the foundation, perform work, and conduct ourselves.

Plan of Education

Students come to Johnson College to prepare themselves as entry-level technicians in industry and the professional community.

To accomplish this primary objective, students pursue technology courses that amount to approximately 66% of their time at the College. The remaining 34% is spent in general education courses preparing them to advance in their careers. The usual class size is 25 but does not exceed 45 students.

Faculty members bring to each program a combination of professional education and sound, practical experience. The faculty exhibits a personal interest in the progress of all students, encouraging and assisting them to achieve the maximum benefit from their programs of study.

The physical facilities consist of modern classrooms, trade areas, and laboratories that are furnished with tools, machines, equipment, and materials that are required to provide a thorough program of education. Equipment used for training in each program of education is representative of that found in industry and is selected to provide the student with the broadest educational experience possible. Examples of this equipment consist of hand and power tools, specialized testing and repairing apparatus, industrial units and clinical devices. Some departments provide an extension of this exposure by requiring students to participate in a practicum/internship/cooperative educational experience.

Learning opportunities are enhanced through the use of the College library which is kept current with books, periodicals, and brochures and provides students with Internet capability. The Library/Resource Center provides for the gathering of information from a variety of outside services and is a member of the Northeast Pennsylvania Library Consortium. In addition, close contact is maintained with institutional and industrial libraries in the area which provide additional sources of reference information. Further learning comes from the use of educational videos, field trips and presentations by business and industrial consultants.

Careers in technology are constantly changing as a result of new products and developments in materials, tools, machinery, equipment, methods and techniques. Program Advisory Committees, comprised of representatives from business and industry, meet regularly with the faculty and administration to make suggestions on course content so that College programs are kept current.

Institutional & General Education Goals & Objectives

Johnson College Goal Categories (Course Category)	Johnson College Institutional & General Education Learning Goals	Institutional & General Education Learning Objectives:
Critical Thinking (critical analysis & reasoning)	is a learned process characterized by questioning assumptions and analyzing data leading to understanding and applying the result of those activities in formulating an opinion or conclusion	<ul style="list-style-type: none"> a) Students will identify and clearly describe the issue being studied. b) Students will differentiate and use appropriate information to investigate a point of view or conclusion. c) Students will construct a specific position that indicates understanding of the different sides of an issue. d) Students will formulate an opinion or conclusion that identifies outcomes or consequences.
Problem Solving (critical analysis & reasoning)	is the process of designing, evaluating, and implementing a strategy to answer an open-ended question or achieve a desired goal	<ul style="list-style-type: none"> a) Students will identify and clearly describe the problem. b) Students will identify strategies for solving the problem. c) Students will propose a solution that demonstrates an understanding of the problem, considering alternative courses of action. d) Students will implement the solution within the appropriate context. e) Students will evaluate results.
Written and Oral Communication (Communication)	is the development and expression of ideas verbal or written	<ul style="list-style-type: none"> a) Students will explain and evaluate what they read, hear, and see. b) Students will state and evaluate the views and findings of others. c) Students will logically and persuasively state and support orally and in writing their points of view or findings. d) Students will evaluate, revise, and edit their communication.

Team Work	is cooperative process composed of individual team members' efforts and interactions leading to achievement of a desired goal	<ul style="list-style-type: none"> a) Students will contribute as a team member by discussing ideas, adding suggestions, and proposing alternative solutions. b) Students will build upon the contributions of team members in a way that enhances the work of the group.
Scientific and Quantitative Reasoning	is to explain occurrences in the context of everyday life, including statistical and/or logical problem-solving, the relationships between quantities, problem identification, hypothesis evaluation, experimentation, interpretation of results	<ul style="list-style-type: none"> a) Students will apply and integrate quantitative reasoning skills into other program areas. b) Students will engage in scientific reasoning to extract and interpret pertinent data. c) Students will apply laws of statistics to evaluate the reliability of a charts and graphs to draw conclusions.
Technological Competency and Information Literacy	is to develop an understanding of academic integrity and recognize document credibility.	<ul style="list-style-type: none"> a) Students will use computer systems and/or other appropriate forms of technology to present information. b) Students will use appropriate forms of technology to identify, collect, and process info. c) Students will use appropriate library/learning resource tools such as cataloging systems to access information in reference publications, periodicals, bibliographies, and data bases. d) Students will recognize when information is needed and be able to locate, evaluate, and use information.
Ethics	is to develop an understanding of how to identify ethical dilemmas and make an assessment leading to appropriate action.	<ul style="list-style-type: none"> a) Students will identify ethical issues and situations. b) Students will analyze and evaluate the strengths and weaknesses of different perspectives on an ethical issue or a situation.

Degrees Awarded

Johnson College is approved by the Pennsylvania Department of Education and the State Board of Education to award two degrees, the Associate in Science (A.S.) degree and the Associate in Applied Science (A.A.S.) degree. All the programs of study prepare graduates for entry-level positions in their field of study.

The Associate in Science (A.S.) degree is awarded to students who graduate from the following programs:

- Computer Information Technology
- Physical Therapist Assistant
- Radiologic Technology
- Veterinary Technology

The Associate in Applied Science (A.A.S.) degree is awarded to students who graduate from the following programs:

- Advanced Manufacturing Engineering Technology
- Architectural Drafting & Design Technology
- Automotive Technology
- Biomedical Equipment Technology
- Business Management – Logistics & Supply Chain Management Track
- Business Management – Project Management Track
- Carpentry & Cabinetmaking Technology
- Diesel Truck Technology
- Electrical Construction & Maintenance Technology
- Electronic Engineering Technology
- Heating, Ventilation & Air Conditioning Technology

Certificates Awarded

The Certificate is awarded to students who graduate from the following programs:

Diesel Preventative Maintenance Technology
Welding Technology*

Various certificate programs are also offered through our Center for Professional Development, including Magnetic Resonance Imaging (MRI), Computed Tomography (CT), Computer Numerical Controls (CNC), and Maintenance and Repair Technician. For the current listing, please visit www.johnson.edu/continuing-education/

*All major welding courses will be held at the College's welding shop.

This satellite site is located at 2001 Rosanna Ave., Scranton, PA. The welding shop is approximately 1.5 miles from the Main Campus located at 3427 North Main Avenue, Scranton.

ENROLLMENT INFORMATION

Johnson College accepts qualified students regardless of race, religion, disability or national origin. Admission to Johnson College is based primarily upon previous academic success. Previous academic success is seen as a key indicator of an applicant's readiness for future academic challenges and success. The College reserves the right to deny admission or re-admission to any student if, in the opinion of the College authorities, his/her admission is not in the best interest of the student or the College. At a minimum, applicants must have a high school diploma, or its equivalent.

Applicants are encouraged to arrange for a campus visit, tour the facilities, meet with students, and schedule a personal information session with an Enrollment Specialist. Appointments may also be made to meet with appropriate faculty and current students.

Preparing your Application

We use the same criteria to evaluate home-schooled applicants as we do for all others. However, since you may not have a traditional high school diploma, your application might be slightly different. To that end we ask that home-schooled students submit the following with their applications:

- If you are under the umbrella of a diploma-granting organization, you will need to submit evidence of the coursework completed and your level of performance
- In absence of such a document, a transcript describing your high school program of study from a reputable home school correspondence program or a detailed roster of academic coursework at the secondary level
- Letter of Completion from the primary teacher or program administrator certifying completion of high school and date of high school graduation
- SAT/ACT Scores
- Official transcript from an accredited university or college (if applicable)
- A campus interview may also be required

Upon acceptance, applicants are required to remit a tuition deposit of \$175. Refer to the Enrollment Information section for further information on the tuition deposit and other enrollment requirements.

Outline of Admission Process

1. Complete the application. Students can apply online at www.johnson.edu. There is a \$25 application fee. Students may also contact the Enrollment Office at:
Johnson College
3427 North Main Ave.
Scranton, PA 18508
570-702-8900
1-800-2WE-WORK
2. The applicant must have the following items sent to the Enrollment Office:
 - Official High School Transcripts from every high school attended or General Equivalency Diploma (GED) (GED policy below)
 - An official transcript from each post-secondary institution attended, if applicable
 - An official copy of Scholastic Aptitude Test (SAT) **or** American College Test (ACT) Scores (Physical Therapist Assistant, Radiologic, & Veterinary Technology only)
 - One Letter of Reference (Radiologic & Veterinary Technology only)
 - Two Letters of Reference - one from a Physical Therapist or Physical Therapist Assistant (Physical Therapist Assistant only)
 - Completed essay Questionnaire (Physical Therapist Assistant & Veterinary Technology only)
 - Observation Verification Form (Physical Therapist Assistant & Veterinary Technology only)

Students will be notified of a decision as applications are processed.

Admission Requirements

For all programs

- 1 year of Algebra with a “C” or higher
- 2 year of English with a “C” or higher

Physical Therapist Assistant

- 1 year of Algebra with a “C” or higher
- 2 years of English with a “C” or higher
- 1 year of Biology with a “C” or higher
- 1 year of Chemistry with a “C” or higher
- 1 year of an additional life science or physics with a “C” or higher
- SAT scores of 900 or above (combined scores of Math and Verbal)
- Act scores 18 or above
- ACCUPLACER scores of 70 or higher on each section
- GPA 2.5 or higher
- 2 letters of reference (One from Physical Therapist or Physical Therapist Assistant)
- Essay questionnaire
- 15 hours of observation
- Interview with Program Director

Radiologic Technology

- 1 year of Algebra with a “C” or higher
- 2 years of English with a “C” or higher
- 1 year Biology with a “C” or higher
- 1 year of Algebra II or Geometry with a “C” or higher
- 1 year of an additional life or physical science with a “C” or higher
- SAT scores of 900 or above (combined scores of Math and Verbal) **or**
- ACT scores 20 or above **or**
- ACCUPLACER scores of 70 on each section
- GPA 3.0 or higher
- Virtual Observation through online video(s) posted on the program’s website
- Letter of Recommendation

Veterinary Technology

- 1 year of Algebra with a “C” or higher
- 2 year of English with a “C” or higher
- 2 years of Biology or a Life Science with a “C” or higher
- 1 year of Chemistry with a “C” or higher
- SAT scores of 900 or above (combined scores of Math and Verbal) **or**

ACT scores 18 or above **or**
ACCUPLACER scores of 70 or higher on each section
GPA 2.5 or higher
1 letter of reference (Veterinarian or Veterinarian Technologist)
Essay questionnaire
10 hours of observation
Interview with Program Director

Certificate Programs

2 years of English with a “C” or higher
1 year of basic mathematics with a “C” or higher

Admissions Procedure

Completed application
Official High School transcript or GED
SAT or ACT scores (if applicable)
1 or 2 letter (s) of reference (if applicable)
Essay Questionnaire (if applicable)
Observation Hours (if applicable)

Physical Therapist Assistant, Radiologic and Veterinary Technology applicants are required to take the College Board ACCUPLACER exam (administered by Johnson College or designee) and submit those scores in place of the SAT or ACT scores.

Minimum ACCUPLACER scores for:

Physical Therapist Assistant, Radiologic Technology & Veterinary Technology applicants:

Elementary Algebra	70
Reading Comprehension	70
Sentence Skills	70

All Other Programs:

Elementary Algebra	30
Reading Comprehension	54
Sentence Skills	60

GED Admission Policy

Applicants are considered GED students if they have passed the GED exam in lieu of high school graduation and if their high school class would have graduated within 5

years of the beginning of the semester for which admission is sought. A minimum score of 2250 is required for admission. A GED must be awarded from the state Department of Education. GED applicants are required to submit the following documents and/or information to the Enrollment Office before a final admission decision can be made:

1. Official GED scores
2. ACCUPLACER scores
3. Official transcripts showing all work completed in high school

Home-Schooled Admission Policy

Johnson College welcomes applications from home-schooled students. A diploma must be awarded from the state Department of Education. To apply to Johnson College, please submit an online application to www.johnson.edu.

Acceptance

Admission decisions include an evaluation of the applicant's desire, ability, and potential for success. Interviews may be required. All application materials will be reviewed and evaluated by the Enrollment Office for final decision.

Veterans

Johnson College welcomes veterans and assists them in carrying out their responsibilities with the US Department of Veterans Affairs. Johnson College and the Financial Aid administrators are certified officials for VA military benefits.

Rehabilitation

Johnson College welcomes students under the sponsorship of the Office of Vocational Rehabilitation (OVR) and will make reasonable accommodations for the disabled. For more information, visit <http://www.dli.pa.gov/Individuals/Disability-Services/ovr/Pages/default.aspx>, or the local office in Wilkes-Barre, PA.

Vocational Rehabilitation Services
300 G Laird Street
Wilkes-Barre, PA 18702-7013

800-634-2060* Voice
888-651-6117* TTY

SOAR (Students Occupationally and Academically Ready)

In order for SOAR credits to be evaluated by the Office of the Registrar, the SOAR Documentation Checklist should be fully completed and sent from the Enrollment Department to the Office of the Registrar. The documents needed to complete the Checklist are below

1. Copy of High School Diploma
2. Official High School Transcript
3. Articulation Agreement Coversheet
4. Secondary Competency Task list
5. Task list Coversheet with the signature of a Secondary School Technical Instructor
6. Pennsylvania Certificate of Competency or a Pennsylvania Skills Certificate in a technical program area

SOAR credits being evaluated must be a grade of a B or higher to be awarded.

If SOAR credits are awarded they will be placed on the student transcript with a letter grade of T after the student has successfully completed their first semester at Johnson College.

Transcript Evaluation Procedure

Students looking to obtain transfer credit must submit an official copy of their college transcripts to the Enrollment Office. Coursework previously completed at another accredited institution or through the Prior Learning Assessment process will be evaluated relative to its equivalency to Johnson College courses and to the specific major. The appropriate Faculty Member and the Registrar will make final decisions on acceptance of such coursework. Students who wish to transfer courses must follow the procedures below:

- Complete the steps listed under Application Requirements
- Have official transcripts from all previous coursework sent directly to the Enrollment Office. Course descriptions, course syllabus or a catalog may be required.

A copy of the evaluation will be provided to the student by mail within 10 business days. The College accepts a maximum of 30 credits from another accredited institution to qualify for an Associate's degree and a maximum of 15 credits to qualify for a Certificate. Only courses completed with a grade of "C" or higher will be considered for transfer credit. (Physical Therapist Assistant and Radiologic Technology courses will be evaluated on a case-by-case basis and will require a grade of "C+" or higher.) Credit requested under PLA format may require an equivalent grade of "B" or higher.

Transfer credit will appear on the student's transcript but only credits from Johnson College will be used in computing the student's Grade Point Average (GPA) and eligibility for academic honors. **It is the responsibility of the student to ensure that all courses have been evaluated prior to registration to avoid duplication of courses.**

Coursework completed within the past five years will be evaluated according to current standards. Coursework completed more than five years ago will be evaluated on a course by- course basis.

Accepted students wishing to receive transfer credit must submit their official college transcript no later than August 1st, otherwise there will be significant delays in processing.

Students needing to request a transcript may use the following link:
http://www.johnson.edu/docs/registrar/Transcript_Request_Form.pdf

Approval for Off-Campus Study

Johnson College will accept credits from other institutions for courses taken by a current student provided the student receives approval from the appropriate Department Chairperson prior to registering for the course and completes the necessary paperwork. The student also must provide the Johnson College Registrar with an official transcript verifying a grade of "C" or higher upon completion of the course. It is the responsibility of the student to ensure these transcripts are forwarded to the Office of the Registrar. Students may not transfer more than six credits in approved off-campus classes. Approval forms may be obtained through the Office of the Registrar or are available on the Registrar's page of the College's website at http://www.johnson.edu/docs/registrar/Approval_for_Off_Campus_Study.pdf

Transfer of Credit with Baccalaureate Institution

Johnson College has program specific articulation agreements with baccalaureate awarding institutions. The latest listing can be found at <http://www.johnson.edu/registrar/articulation-agreements/>

Applicants who are accepted to Johnson College must meet the requirements listed below:

Tuition Deposit

A \$175 tuition deposit is required from accepted students. Deposits will be refunded according to ACCSC standards to accepted students who do not enroll. This deposit will be applied to first-semester tuition.

College Placement Exam

All newly-accepted students are required to take College Placement Exam. The two-part exam tests students in three areas: Elementary Algebra, Reading Comprehension, and Sentence Skills. Based on the test results, students may be required to take developmental courses. A photo ID is required to sit for the exam.

Johnson College Preparatory Program

The Johnson College Preparatory Program provides academic reinforcement services prior to the start of the freshman year. The Preparatory Program includes math, writing, reading and study skills courses as well as access to a computer lab. An accepted student who does not meet minimal placement scores for their specific program area will be required to complete one or more developmental courses with a grade of “C” or higher. If applicable, these courses are prerequisites to fulfill all General Education requirements.

The Johnson College Preparatory Program allows students to complete the developmental courses during the summer prior to the start of classes. The decision to take these courses during the regular academic year will result in extending a student’s program of study and, consequently, may have an impact on eligibility for financial aid.

Medical Inoculations

Students applying for campus housing are required to submit a completed a health clearance form, which includes medical inoculations, to the Student Engagement Office before receiving housing assignment.

Information on medical inoculations for Biomedical Equipment Technology, Physical Therapist Assistant, Radiologic Technology and Veterinary Technology students is located in the section of the respective program area.

Criminal Background Check/ Alcohol and Drug Screening

Some programs of study, educational experiences, clinical practicums, internships, and cooperative education programs, as well as potential employers, may require a criminal background check, child abuse clearance, fingerprinting and/or drug screening. Johnson College is not responsible for the decisions or actions of other institutions or organizations that may result from students’ failure of drug screening or background check or students’ failure to report the results of these incidents to the College.

The results of a criminal background check will not necessarily preclude admission to Johnson College, however students may not be able to complete the academic program.

TUITION, FEES, EXPENSES

The following tuition and fees are for the 2017-2018 academic year. The College reviews tuition and fees annually and reserves the right to adjust fees when necessary.

Application Fee

A \$25 fee is required for every application. This fee is refundable only if a student cancels the application within three days of payment.

Tuition Deposit

Accepted students must submit a \$175 deposit within 30 days of receipt of an acceptance letter. This deposit is required prior to registration and is credited to the student's tuition account.

Tuition

Tuition for full-time attendance (12 to 19) credits per semester, 24 to 38 credits per academic year) for the 2017-2018 academic year is \$16,942. The per credit tuition rate of \$530 will be assessed for each approved credits over 19 per semester.

Tuition for part-time attendance (fewer than 12 credits per semester) is based on the number of credits for which a student registers. The per credit tuition rate is \$530.

Additional Fees

Fees for part-time students (fewer than 12 credits per semester) are prorated based on the number of credits per semester for which a student registers.

Regardless of number of credits registered, students will be billed 100% for orientation and graduation fees.

All students are required to pay the following annual fees except as indicated:

General Fee \$300

The general fee covers student activities, fitness center, auto registration/roadway maintenance, and accident insurance with \$25,000 medical coverage per accident.

Program Fee-HVAC & Carpentry \$ 650

Program Fee-PTA, RAD & VET \$1,100

Program Fee-Welding \$1,200

Program Fee-All other programs \$ 550

The program fee defrays the institutional operating costs associated with maintaining and upgrading equipment within each program.

Technology Fee \$425

The computer lab fee covers the cost of utilization of the computer labs and a personal e-mail account for all students.

Orientation Fee \$150 (Freshmen Only)

The Orientation Fee covers the cost of the College's Freshman Orientation program.

Graduation Fee \$200

The graduation fee covers the cost of diplomas, caps and gowns, invitations, and the post-graduation reception. There is no reduction in the fee for graduates who do not attend commencement. The graduation fee is required for each degree earned.

On-Campus Housing

The on-campus housing cost is \$7,540 per student per year for a double-occupancy apartment. The Microtel campus living option cost is \$7,080 per student per year. A one-time security deposit of \$175 is required. Students who would like to have telephone services are responsible for those expenses. Housing registration forms may be obtained from the Student Engagement Office.

Dining and Meal Plans

Johnson College offers ala carte dining and several meal plan options. Semester meal plan options are below:

PLAN	MEALS/SEMESTER	AVERAGE MEALS	FLEX MONEY	COST
Bronze	75	1/Day (5/Week)	\$20 + \$5 Free	\$390
Silver	150	2/Day (10/Week)	\$40 + \$10 Free	\$780
Gold	225	3/Day (15/Week)	\$60 + \$15 Free	\$1,170
Flex	0	0	\$50 + \$5 Free	\$50

Books & Supplies

Books and supplies will cost approximately \$1,500-\$2,000 per school year; this amount may vary substantially depending on the program in which a student is enrolled.

Transcript Fee

Johnson College will provide official transcripts for a fee of \$5 each upon written request. Request forms may be obtained from the Office of the Registrar. Official transcripts (bearing the seal of the College and the signature of the Registrar) are sent directly to the university, college, agency or employer indicated by the student. Official transcripts will not be issued unless all financial obligations have been met at the time of the request. Johnson College is permitted to withhold official transcripts from former students who have defaulted on a federal Stafford Loan. A copy of the transcript will be furnished to the former student with the notation “unofficial” stamped on it. Unofficial transcripts may be requested by students for their personal use at a fee of \$5.

To request a transcript, use the following form:

http://www.johnson.edu/docs/registrar/Transcript_Request_Form.pdf

Medical Inoculations

Information on medical inoculations for Biomedical Equipment Technology, Physical Therapist Assistant, Radiologic Technology, and Veterinary Technology is found in the respective program area. These costs vary for each program based on the type and fee for each clinic. Campus housing residents are required to obtain medical inoculations.

Senior Testing Fees

Seniors in their last semester of education in Automotive, Diesel and HVAC programs will be charged a testing fee that is required for industry certification. Fee costs will be reflected on the most current Enrollment Agreement for that academic year.

Biomedical Technology Summer Internship Fee

In addition to tuition and fees, Biomedical Technology students will have a summer internship fee of \$1,000. Students are responsible for the costs of required health exams and immunizations.

Radiologic Technology Summer Clinical Fee

In addition to tuition and fees, Radiologic Technology students will have a summer practicum fee of \$1,200. Students are responsible for the costs of required health exams and immunizations.

Veterinary Technology Summer Internship Fee

In addition to tuition and fees, Veterinary Technology students will have a summer internship fee of \$1,000. Students are responsible for the costs of required health exams and immunizations.

Other Fees

Credit by Examination	\$ 100
Late Registration	\$ 50
Re-admission	\$ 50
Monthly Late Payment Fee	\$ 35
Returned Check	\$ 30

FINANCIAL AID

Financial aid helps meet college costs, both educational (tuition and fees,) and living (food, housing, and transportation) for those who qualify. Through various programs offered by state and federal governments, as well as private lenders, financial aid helps the cost of education become affordable.

Several forms of financial assistance are available to students who qualify. Participation in programs funded by state and federal agencies requires the Financial Aid Office to comply with the regulations set forth by each agency concerning student eligibility and academic progress standards. This will generally require the completion of the Free Application for Federal Student Aid (FAFSA)(www.fafsa.ed.gov).

Responsibility for financing an education rests first with students and their families. Financial aid should be viewed as supplementary, to be used only after the full resources of students and their families are committed.

Eligibility

Each funding source has its own eligibility requirements; further information is available through the Financial Aid Office.

Grants

Federal Pell Grant*
Federal Supplemental Educational Opportunity Grant (FSEOG)*
PHEAA Grant (Pennsylvania Higher Education Assistance Agency)*
Johnson College Institutional Grant*

Loans

Federal Direct Subsidized Student Loan*
Federal Direct Unsubsidized Student Loan
Federal Direct Parent Loan for undergraduate Students (PLUS)

*Indicates need-based aid to eligible students

Student Employment

Students who are interested in on-campus employment may obtain further information from the Financial Aid Office.

Federal Work-Study: an on-campus, federally-funded employment program that

provides supplemental assistance to students who demonstrate financial need.

Johnson College Student Employment: an on-campus, institutionally-funded employment program that provides supplemental assistance to students regardless of financial need.

Satisfactory Academic Progress

Students attending Johnson College who wish to be considered for Federal Title IV (*Pell Grant, Federal Supplemental Educational Opportunity Grant (FSEOG), Federal Work-Study, Direct Student Loan, or Direct Parent PLUS Loan*) and institutional aid, in addition to meeting other eligibility criteria, must maintain satisfactory academic progress (SAP) in the course of study being pursued. The college is required to establish a SAP standard in accordance with U.S. Department of Education regulation 34 CFR 668.34. This SAP Policy is as strict as or stricter than academic policies for students who are not receiving Title IV Aid. Students' academic records will be reviewed at the end of each enrolled term (i.e., fall semester, spring semester, and summer session) after grades are calculated by the Registrar's Office. All semesters in which the student is enrolled, including summer, must be considered in the determination of SAP, even semesters for which the student did not receive federal financial aid.

Satisfactory Academic Progress Minimum Standards

SAP is measured on three standards: Completion Rate (CR), Cumulative Grade Point Average (CGPA), and Maximum Time Frame (MTF). Students requesting consideration for federal financial aid must demonstrate a positive forward movement toward their degree and must meet the following standards.

Certificate Programs of One Year or Less	1 to 15 credits	16 credits and greater
CR	67%	
CGPA	1.85	2.0
MTF	Total credits attempted cannot exceed 150% of program length.	
Undergraduate Degree		
CR	67%	
CGPA	See CGPA chart below	
MTF	Total credits attempted cannot exceed 150% of program length.	

Completion Rate (CR)

Completion Rate is a quantitative measurement of your progress towards graduation. In order to complete your degree in a timely manner you must complete a certain percentage of the credits that you attempt.

Attempted credits include all course credits in which the student remains enrolled past the last day of the Add/Drop period. Included in the number of attempted credits are F (fails), I (incompletes), R (repeats), and W (withdrawals). Credits transferred into Johnson College are considered attempted and earned. Developmental courses are counted as hours attempted and, if successfully completed, hours earned.

$$\text{To calculate CR} = \frac{\text{Cumulative number of credits that you have successfully completed}}{\text{Cumulative number of credits that you have attempted}} = \%$$

Examples:

Undergraduate Degree	<div> <div>12 earned</div> <div>18 attempted</div> <div>= 67%</div> </div>	Successful CR
Undergraduate Degree	<div> <div>9 earned</div> <div>18 attempted</div> <div>= 50%</div> </div>	Unsuccessful CR

Cumulative Grade Point Average (CGPA)

Your CGPA is a qualitative measurement of your academic achievement. All students must maintain the minimum CGPA set forth in this policy. Credits that are not calculated into the SAP CGPA include I (incompletes), W (Withdrawals), P/F (Pass/Fail) and transfer credits.

Undergraduate degree of more than one year	1 to 15 credits	16 to 30 credits	31 to 45 credits	46 or more credits
	1.80	1.85	1.95	2.0

Maximum Time Frame (MTF)

The Maximum Time Frame (MTF) cannot exceed 150% of the program length. Full-time students should earn approximately 15 credits a semester in order to stay on MTF. Developmental courses are counted as hours attempted and, if successfully completed, hours earned. Credits earned are counted toward academic progress but do not count towards a degree. Therefore, these credits will be excluded from the MTF requirement. Total credits for MTF cannot be rounded up or down. To calculate MTF multiply program length x 150%.

Examples:

Program	Program Length	MTF
Welding Certificate	30	45
Advanced Manufacturing Engineering Technology	63	94.5
Radiologic Technology	73	110

Repeat Coursework

Financial aid is available for the first repeat of any previously passed course. Financial aid is available for each attempt of a previously failed course. However, each attempt is considered into the CR and MTF.

*Audited classes are not counted into CGPA, CR or MTF.

Consecutive Enrollment

If a student fails to meet the CGPA or CR requirements for two (2) consecutive terms, whether or not they are receiving financial aid, they will be considered to have unsatisfactory academic progress (USAP). This status will result in a USAP suspension

and loss of their financial aid eligibility. Students who exceed Maximum Time Frame will have USAP suspension immediately.

Change of Major

The first time a student changes their Major program of study, the courses that pertain to the previous major are not included in the SAP calculation. However, all courses that fulfill requirements for the new major are used in the SAP calculation. Subsequent changes to a student's major ARE calculated into Satisfactory Academic Progress.

Second Certificate or Degree

If a student enrolls for a second certificate or degree, after completion of a certificate or degree, the student may be eligible for an additional 150 % Maximum Time Frame of financial aid for their new program of study. This will be determined based upon compliance of ALL other federal regulations.

Unsatisfactory Academic Progress (USAP)

Failure to meet satisfactory academic progress (SAP) requirements set forth by Johnson College in accordance with federal regulations result in unsatisfactory academic progress (USAP).

USAP Statuses:

USAP Warning Status

You will be placed on a USAP Warning the first time you do not meet SAP standards. This means you are one enrolled term away from losing your financial aid eligibility. You still have financial aid eligibility for one enrolled term to meet SAP standards.

USAP Suspension Status

If you are placed on a Warning and, at the end of the next term you have not met the SAP standards you placed on USAP Suspension. You will not receive federal or institutional financial aid. You may appeal this status.

USAP Probation Status

If you have successfully appealed a Suspension, you will be placed on USAP Probation for one enrolled term. If you meet the SAP standards at the end of the Probation term, your SAP Status will be considered met and you will no longer be considered USAP. If

you do not meet the SAP standards at the end of your Probation, you will be placed back into USAP Suspension.

USAP Academic Plan Status

If you have successfully appealed a USAP Suspension by completing the Unsatisfactory Academic Progress Appeal Form, you may be placed on an Academic Plan. You must successfully follow your SAP Academic Plan while in this status. You will be monitored by the Financial Aid Office at the end of each term. If you do not meet the criteria outlined in your SAP Academic Plan, you will be placed back into Suspension. If you are meeting the criteria outlined in your SAP Academic Plan, you will remain in this status until either the plan expires or you are meeting SAP standards.

If you meet SAP standards while on Probation or while on your SAP Academic Plan, your SAP Status will be considered met for the next term.

If you do not meet SAP standards and your SAP Academic Plan expires, you will need to submit a new USAP Appeal in order for your aid eligibility to be re-reviewed.

REINSTATEMENT OF FINANCIAL AID ELIGIBILITY

If you lose federal and institutional aid eligibility because you are not meeting the SAP Cumulative GPA or Completion Rate standards, you may regain eligibility in one of the following ways:

1. Submit an Unsatisfactory Academic Progress (USAP) Appeal Form with supporting documentation. That form provides a non-exhaustive list of circumstances for which you may appeal. You must advance toward attaining a degree and show progress within your SAP Academic plan for graduation.
2. Attend Johnson College using your own resources. You must advance toward attaining a degree and adhere to SAP Standards. You must contact our office after grades have been posted by the Registrar's Office in order for your financial aid to be reviewed for reinstatement.

If you lose federal and institutional aid eligibility because you are not meeting the SAP Timeframe standard, you must submit a USAP Appeal Form for approval in order to regain eligibility.

Once you regain eligibility, you will be awarded financial aid subject to your financial aid eligibility and the availability of funds.

PHEAA Academic Progress

Pennsylvania State Grant academic requirements are mandated by PHEAA. A student is required to successfully complete a minimum of six (6) semester credits per semester for each part-time State Grant award received and a minimum of twelve (12) credits per semester for each full-time State Grant award received. Credits earned for repeat courses which were previously counted when State Grant progress was verified cannot be counted again. Academic progress is confirmed by the financial aid administrator at the end of each award year. Failure to meet the minimum requirements means that you are ineligible for further State Grant aid until you have successfully completed the required number of credits.

Industry Tuition Reimbursement Plans

Many companies provide their employees with reimbursement for education expenses. Students should consult their employer for further information. Arrangements for this type of payment should be set up with the Student Business Office prior to the start of classes.

Scholarships and Merit Awards

Johnson College offers a variety of scholarships to meet the financial needs of new and returning students. These awards may be based on financial need, community commitment, and/or academic standing. Each scholarship has specific criteria. For the most up-to-date scholarship information, please visit our website at:

<http://www.johnson.edu/prospective-students/financial-aid/scholarships/>

The scholarship application which consists of four questions can be submitted via the web, email, in person, or by mail. Please be sure to follow the instructions carefully; each part of the application is reviewed and critiqued by Johnson College's Scholarship Committee. *Any student who submits a scholarship application who has not completed a FAFSA will not be taken into consideration for a scholarship until the FAFSA is complete.*

Applicants will receive a notification letter from the Financial Aid office indicating receipt of their application, and the timeframe in which it will be reviewed by the scholarship committee. ***Priority deadline for returning students is May 1st and priority deadline for new students is August 1st.*** Upon review by the committee all submissions will receive a response. Priority deadlines allow the committee to Recipients will be required to attend the annual scholarship breakfast and to the send the donor of their scholarship a thank you letter.

Award amounts for endowed scholarship funds are determined annually according to earnings on the funds and in accordance with Johnson College policies.

WITHDRAWAL AND ADJUSTMENT OF CHARGES

Students who officially withdraw from their programs of study at Johnson College may be eligible for an adjustment of tuition charges and fees. Adjustments are based on the official date of withdrawal or the last day of documented class attendance, as determined by the Office of the Registrar.

Tuition Adjustment

Students who withdraw or are terminated from Johnson College during the semester will be entitled to an adjustment of tuition and fees according to the following schedule:

Withdrawal:	Adjustment:
First week	100%*
Second week	50%
Third week	25%
After third week	0%

*See Application of Policy (1), found on the next page.

Johnson College institutional grants, PHEAA grants, and scholarship funds awarded to students who withdraw or are terminated may be adjusted according to the same schedule.

Federal aid and/or state grant assistance (such as PHEAA) and/or institutional assistance from Johnson College may not cover all unpaid institutional charges due the College upon the student's withdrawal. In such cases, students will be billed for remaining balances.

State Guidelines

Pennsylvania and other state's grants will be adjusted in accordance with the agency's stated guidelines. PHEAA Grant funds may be reduced by the same percentage as the tuition reduction received by students who withdraw from their programs of study. However, it should be noted that PHEAA reserves the right to make the final decision on the percentage of the reduction.

Federal Guidelines

In accordance with federal regulations, students who receive federal financial aid and withdraw from Johnson College during the first 60% of a semester will have their federal financial aid adjusted based on the percentage of the semester completed prior to the withdrawal. Students will be entitled to retain the same percentage of the federal financial aid received as the percentage of the semester completed. This percentage is calculated by dividing the number of days in the semester (excluding breaks of five days or longer) into the number of days completed prior to the withdrawal (excluding breaks of five days or longer). The date of withdrawal will be based on the official date of withdrawal or the last day of documented class attendance as determined by the Registrar.

Once the amount of federal funds to be returned has been calculated, the funds will be returned in the following order:

- Unsubsidized Federal Direct Student Loans
- Subsidized Federal Direct Student Loans
- Federal Direct Parent Loan for Undergraduate Students (PLUS)
- Pell Grants
- Federal Supplemental Educational Opportunity Grants (FSEOG)

The amount to be returned to a specific federal program may not exceed the total amount awarded from that program.

First-year, first-time borrowers who withdraw before the 30th calendar day of the program of study are prohibited from receiving Federal Direct Student Loan funds (Unsubsidized Direct Loans and Subsidized Direct Loans) at the time they withdraw.

Application of Policy

(1) 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 school facilities and inspection of equipment where training and services are provided.

(2) All monies paid by an applicant must be refunded if requested 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 minus a registration fee of 15% of the contract price of the program, but in no event may the school retain more than \$150. Any refunds due to applicants shall be refunded within 30 days from a notice of cancellation or failure to appear on or before the first day of

class.

(3) Any refunds due to students who begin attending classes shall be refunded within 30 days from the date of withdrawal or the last day of attendance as determined by the Registrar, whichever is later.

(4) The withdrawal date is used to determine the percentage of the period of enrollment completed and, therefore, the amount of aid a student has earned. The date of determination that the student is no longer enrolled is used in the following circumstances:

- Students who receive a refund of financial aid prior to withdrawing from Johnson College may owe a repayment of the federal financial aid funds received. Students will be contacted by the Financial Aid Office in such situations and will be given 45 days from the date of determination to repay the funds to Johnson College. Students who fail to return the unearned portion of federal financial aid funds given to them will become ineligible for continued receipt of financial aid until such time as the repayment is made.
- Within 45 days of the date of determination, Johnson College must return the amount of federal funds for which it is responsible.
- Within 30 days of the date of determination, Johnson College must offer withdrawing students any amount of post-withdrawal disbursement that is not credited to the student's account.
- Within 90 days of the date of determination, Johnson College must respond to a request by a student or parent to make all or a portion of the post-withdrawal disbursement.

Further information about refunds of financial aid may be obtained from the Financial Aid Office.

ACADEMIC INFORMATION

Student Success Seminar

The Student Success Seminar course is designed to help freshmen adjust to the college environment, develop a better understanding of the learning process and acquire essential academic survival skills.

SS 101 is an interdisciplinary introduction to the college experience, including policies and resources, study skills, test preparation, use of college resources, technology, electronic mail, academic and career planning, time and money management, and discussion of relevant contemporary topic in health and wellness. The students will learn how to navigate the technology-learning tool Desire 2 Learn and participate in workshops to become familiar with campus resources. This course may also be offered in a distance education format, when available.

Successful completion of SS 101 – Student Success Seminar is a graduation requirement. Failure to successfully complete the course will require a rescheduling of the course for a subsequent semester or at the end of the freshman year to an intensive Independent Study. Students who have previously earned an associate's degree or higher from an appropriately accredited institution of higher education will be exempt from this course with official verification.

Change of Name / Address

The Office of the Registrar must be informed in writing of any changes to a student's personal information, such as name, address, and telephone number. It is the student's responsibility to keep the College informed of any changes to student information. In the event of a name change, a marriage license or divorce decree must be presented along with the Name Change form. A Name Change form may be obtained by visiting the Office of the Registrar or the form may be accessed using the following link: http://www.johnson.edu/docs/registrar/Change_of_Name_Form.pdf

A Change of Address form may be obtained by visiting the Office of the Registrar or via the following link: http://www.johnson.edu/docs/registrar/Change_of_Address-Phone.pdf

Verification

A verification letter provides proof of enrollment, graduation, student status, or other student related information. It does not provide specific course or grade information as found on an official transcript. Verification letters may be requested by organizations

such as an insurance company or sponsor. Verifications are provided free of charge to all students, both current and previously enrolled students. Letters verifying enrollment will not be provided prior to the beginning of the semester; if a student needs verification prior to the start of the semester, a letter will be provided stating that the student is “scheduled to enroll.” An Enrollment Verification Request Form may be obtained at http://www.johnson.edu/docs/registrar/Enrollment_Verification.pdf or by visiting the Office of the Registrar.

Length of Programs

The academic year, consisting of two 15-week semesters, begins in August and ends in May. Programs of degree-based education are 24 months in length (four semesters totaling 60 weeks) except those which may require summer internships/practicums. The Physical Therapist Assistant program is 29 months in length (five semesters totaling 75 weeks). The Diesel Preventative Maintenance Technology certificate program of education is 9 months in length; the Welding Technology certificate program is 9 months in length. Total program hours vary by department.

Prior Learning Assessment

Prior Learning Assessment (PLA) in Pennsylvania is a joint collaboration by the Pennsylvania Department of Education and the Pennsylvania Department of Labor & Industry. PLA is defined as a validated process to evaluate knowledge and skills students gain from life experiences. When these prior learning experiences demonstrate college-level learning and align with college course competencies, postsecondary institutions may award college credit. (Evaluation of prior learning completed 5 years before the request date is based on review by a Senior Director within the Office of Academics, appropriate faculty, and Office of the Registrar.)

Johnson College has entered into a Prior Learning Assessment Agreement with the Pennsylvania Department of Education to apply PLA standards in the following manner.

For more information, please use this link:

http://www.johnson.edu/docs/registrar/Prior_Learning_Assessment.pdf

Credit by Examination

- **AP (ADVANCED PLACEMENT)** - Students who have completed advanced courses in high school or vocational-technical school may be eligible for advanced placement. Students seeking advanced placement should indicate their intention to the Admissions Office prior to the beginning of the semester. Such students will be required to complete an application for advanced placement and

to take a competency exam. Upon completion of the exam (a grade of “C” or above is required for advanced placement), students will be notified and the information will be entered on their transcript but not calculated into their GPA. Advanced Placement scores from the College Board may be substituted for the College’s advanced placement exam.

- **Advanced Placement Mathematics** - The Mathematics faculty will review previous academic records of students who test at or above an 80 in the Algebra ACCUPLACER placement test to determine if they are sufficiently prepared for advanced placement into MAT 201 (College Algebra & Trigonometry). Students requiring six (6) MAT credits who opt for the advanced placement into MAT 201 must register for an advanced MAT course to complete graduation requirements. Students in the Logistics program of study are required to complete 3 credits, MAT 121, as part of their degree requirements.
- **CLEP (College Level Examination Program)** – Students who have completed CLEP exams prior to attending Johnson College should submit their exam scores at the time of application to the College (a grade of “B” or above is required). The appropriate faculty member and the Office of the Registrar will review the test to determine applicability to awarding credit for Johnson College coursework.
- **ECE (Excelsior College Examinations)** – Students who have completed Excelsior exams prior to attending Johnson College should submit their exam scores at the time of application to the College (a grade equivalent to “B” or above is required). The appropriate faculty member and the Office of the Registrar will review the test to determine applicability to awarding credit for Johnson College coursework.
- **DSST (DANTES (Defense Activity for Non-Traditional Education Support) Subject Standardized Tests)** – Students who have completed DSST exams prior to attending Johnson College should submit their exam scores at the time of application to the College (a grade equivalent to “B” or above is required). The appropriate faculty member and the Office of the Registrar will review the test to determine applicability to awarding credit for Johnson College coursework.
- **Johnson College Challenge Examination** – Full-time students, who are currently enrolled in a course and who believe they have adequate knowledge of the subject, may request to receive credit by examination. To complete a course under this policy, a student must make arrangements with the class instructor and obtain approval by the appropriate faculty member, a Senior Director within the Office of Academics, and the Office of the Registrar. Students should submit a completed Challenge Examination Form which is

obtainable from the Office of the Registrar via the following link:
http://www.johnson.edu/docs/registrar/Challenge_Examination_Form.pdf

Grades earned on the Challenge Exam will be placed on the student transcript. Testing must take place prior to the completion of the third week of class.

Students, including those with a “deposit confirmed” status, who believe they have adequate knowledge in a subject area whether through military service, non-credit training, work experience, etc. and who do not have transcripts documenting that learning may be eligible to sit for a Johnson College Challenge Examination. To complete a course under this policy, a student must obtain a Challenge Exam form from the Office of the Registrar then meet with the appropriate faculty for an assessment to determine eligibility. Once approved by the faculty member, student must obtain approval from a Senior Director within the Office of Academics and the Office of the Registrar. Grades earned on the Challenge Examination will be placed on the student transcript after successful completion of the first semester of study.

Johnson College reserves the right to make an exception to the above policy for students with an “accept” status based on circumstances surrounding that student as discussed with a Senior Director within the Office of Academics.

The fee for taking the Challenge Exam is \$100 and must be paid prior to the examination; student must present a paid business office receipt to the exam proctor. The fee will be waived with proof of veteran status. The college will not allow more than three full-course equivalents completed by Challenge Examination to count toward a degree without approval of a Senior Director within the Office of Academics.

Center for Professional Development Students must complete Continuing Education certificate program to qualify for taking exam without credit enrollment at Johnson College. The fee is \$100.

More information can be found by visiting the Office of the Registrar’s website: <http://www.johnson.edu/registrar/>

Credit for Military Experience – Educational Programs

Students who have completed educational programs offered by branches of the American armed services may be granted academic credit for their coursework. Students should submit an official transcript of their coursework as part of the admissions process. Transcripts will be evaluated according to the guidelines stated by the American Council on Education (ACE) Guide to the Evaluation of Educational Experiences in the Armed Services in determining the credit value of learning acquired in military service. Upon review by the appropriate faculty and the Office of the Registrar, credit may be awarded for appropriate learning acquired in military service at levels consistent with ACE Guide recommendations and/or those transcribed by the Community College of the Air Force when applicable to a service member's program of study. Applicants who have served in the armed services must submit a certified copy of form DD-214, Report of Separation. A final determine of transfer evaluation credit is at the discretion of the institution.

Credit for Military Experience – Military Workplace Learning

Johnson College assists service members and veterans to incorporate credits into their degree programs based on collegiate-level learning achieved not only through formal school training but also through occupational experience and nationally-recognized non-traditional learning testing programs (see Credit by Examination).

Johnson College recognizes the value of specialized military training courses. The appropriate faculty and the Office of the Registrar will review and if appropriate award credit for Military Occupational Specialties (MOS) and Navy Rates and Ratings as recommended by the ACE Guide to the Evaluation of Educational Experiences in the Armed Services. Students must submit an official transcript of their military training courses for evaluation. A final determine of transfer evaluation credit is at the discretion of the institution.

Workforce Training

Johnson College recognizes the knowledge and skills that students may acquire as result of training in the workplace. The American Council on Education (ACE) National Guide to College Credit for Workforce Training is used to determine if the knowledge and skills demonstrate college-level learning. Credit recommendations from ACE may be used to obtain college credit or for advanced placement.

Students seeking credit for Workforce Training should send an official transcript from the ACE Transcript Service to the Office of the Registrar for review. The appropriate faculty member and the Office of the Registrar will review such transcripts on a case-by-case basis.

If a student has participated in Workforce Training that is not recognized by the American Council of Education, they may seek validation of that training for credit through use of the Johnson College Challenge Exam procedure.

Registration

Students may make changes to their schedule during the first week of the semester. Students must complete the following form to request a change of schedule: http://www.johnson.edu/docs/registrar/Change_of_Schedule.pdf

Online classes are periodically offered to students. These classes are listed separately within the registration directory. Only students who have completed the “Student Online Success Strategies” successfully will be allowed to participate in classes offered in an online format. Additional information on online policies are found in the Student Handbook under “Distance Education.”

The registration process is coordinated through the Office of the Registrar. The Office of the Registrar will announce the procedures and dates of registration.

Students who have outstanding balances will be put on Bursar’s Hold by the Student Business Office and will not be permitted to register until that hold is released by the Student Business Office.

All students must meet with their academic advisor prior to registration otherwise they will be placed on an Advising Hold. Students will be given registration access to the Student Portal which enables them to register online for classes. The complete advising policy can be found in the student handbook.

Students are permitted to attend only those classes for which they have officially registered and paid.

If a course is at target capacity the student must return a completed Override Target Course Enrollment form to the Registrar’s Office before classes begin students are permitted to attend only those classes for which they have officially registered and paid. The Override Target Course Enrollment form is available in the Office of the Registrar.

It is the responsibility of students to ensure that they are following the suggested program outline and meeting all program requirements for graduation. Failure to do so may result in extending their program of education.

Student Academic Course Load

A student is considered full-time when registered for a minimum of 12 credits per semester. A student is considered part-time when registered for fewer than 12 credits. A student typically carries 12 to 19 credits in both the fall and spring semesters. An academic overload occurs when a student attempts to register for more than 19 credits in a semester. Students who wish to register for more than 19 credits must have the permission of a Senior Director within the Office of Academics. Students who are granted permission for an academic overload are subject to additional tuition charges.

Formation of Sections and Cancellation of Courses

Johnson College reserves the right to cancel a program, course, or section, to change the time of meeting, to subdivide a section, or to combine two or more sections as circumstances may require. Every effort is made to minimize the impact of such changes on students. Students who are involved in a change of schedule should see their academic advisor; the Office of the Registrar will process the changes.

Course Audits

Students may audit a course for personal enrichment. They may attend classes and participate in lectures and laboratory activities but are not required to complete assignments or take tests. Students who elect to audit a course will receive a grade of “AU” on their transcript that indicates that no grade or credit has been given for the course. The charge for audited courses is the same as for credit courses.

Change of Major

Students may apply to change their major during the first academic week of a semester. Any student who wishes to change their major after this time period will be reflected in the next academic semester. Currently enrolled students who wish to change their major must complete a Change of Major form and obtain the required approval/signatures as indicated on the form. Forms may be obtained through the Office of the Registrar by appointment only.

Change of Schedule

After a student is registered, changes to the schedule may be made through the process of adding and/or dropping a course. Students may be admitted to another course or change sections, depending on availability of seats, only during the first week of the semester. Schedule Change forms are available through the Office of the Registrar.

Any change in schedule must first be approved by the student’s advisor.

Student-Initiated Dropping of a Course

From the first day of class to the end of the first week of the semester, a student may drop a course without notation, provided a Drop/Add form is submitted with the required signatures. Dropping a course during this period results in no grade or transcript record. The form is available at:

http://www.johnson.edu/docs/registrar/Course_Drop-Add_Form.pdf

From the second week of the semester to the end of the tenth week of class, a student-initiated withdrawal receives a grade of “W” (Withdrawn) which is not calculated into the student’s Grade Point Average (GPA) but does appear on the student’s transcript.

From the eleventh week to the last day of the course, students are not permitted to withdraw from a class and will receive the grade they earned for the course.

Student-Initiated Adding of a Course

A student may add a course during the first week of a 15-week semester provided a Drop/Add form is submitted with the required signatures. The form is available at: http://www.johnson.edu/docs/registrar/Course_Drop-Add_Form.pdf

Distance Education courses cannot be added after the start of the semester.

Repeated Courses

Students may repeat a course in which they earned a “D+”, “D” or “F” in order to improve their Grade Point Average (GPA). The repeated course will appear on the student’s transcript twice. The original grade will be replaced with an “R” and only the new grade will be used in calculating the student’s GPA. A course may be repeated no more than two times.

Students receiving a grade of “D+”, “D” or “F” may elect to take the course at another institution and transfer the credit for it to Johnson College. In this event, the original grade will be replaced with an “R” and will be used only in calculating the total number of credits required for graduation. Transfer credit will not be used in the calculation of a student’s cumulative GPA.

Credit Hours and Grading System

Each course has a credit-hour value based upon the required number of hours per week in the classroom, laboratory, or program area as well as the appropriate number of additional outside work clock hours that support the didactic component of the class.

clock hour = 60 minute period
 15 hours of lecture + 30 clock hours of additional outside work = 1 credit
 30 hours of lab +15 clock hours of additional outside work = 1 credit
 45 hours of internship = 1 credit
 clinical practicum 240-360 hours (Radiologic Technology students only) = 1 credit *

**The Clinical Practicum Experience described by the Joint Review Committee on Education in Radiographic Technology (JRCERT) at a facility recognized by the JRCERT as meeting appropriate qualifications for delivery of clinical education. A clinical practicum experience is utilized for providing learning experiences to develop attainment of required program competencies. A Clinical Practicum site requires JRCERT recognition.*

Course achievement levels and cumulative Grade Point Averages (GPA) are provided on semester transcripts using the following grading system:

<u>Letter Grade</u>	<u>Numerical Relationship</u>	<u>Quality Points</u>
A	96-100	4.0
A-	92-95	3.67
B+	88-91	3.33
B	84-87	3.0
B-	80-83	2.67
C+	76-79	2.33
C	72-75	2.0
C-	68-71	1.67
D+	64-67	1.33
D*	60-63	1.0
F	0-59	0.0
I**	Incomplete	
W	Withdrew	

* Minimal passing grade

** A grade of “Incomplete” will be awarded only in exceptional circumstances. A grade of “Incomplete” must be completed within 10 school days. If the grade is still “Incomplete” beyond this period, the grade will be reviewed and may be listed as an “F” or Failure and the course must be repeated.

Cumulative Grade Point Average is computed using the following formula:

$$\text{Cumulative GPA} = \frac{\text{total quality points earned per semester(s)}}{\text{total credit hours attempted per semester(s)}}$$

Attendance Policy

Since regular and prompt attendance is essential to scholastic success and growth, students are expected to attend all scheduled classes and lab sessions for which they are registered. Absence does not excuse a student from the responsibility for class work or assignments that are missed. Students should be sure that they understand the attendance policies as outlined in the course syllabus for each of their instructors and should notify their instructors in the case of absence.

Announcement of the College closing due to inclement weather or emergency conditions will be made on the College's website (www.johnson.edu) and local television stations. Information may also be obtained by calling Johnson College at (570) 342-6404 and following prompts. Students may register for an emergency notification to receive automatic text messages and emails.

- **Instructor Responsibilities:**

- i. All faculty must provide students with a written attendance policy.
- ii. Instructor will provide class with the attendance policy in the course syllabus.
- iii. Record attendance daily.**
- iv. Notify students of noncompliance with the attendance policy.
- v. Communicate warnings of absences via email to the student. These will be retained as a running record.
- vi. Syllabus must reflect how class/lab time missed will impact student grade.

- **Student Responsibilities:**

- i. Prepare thoroughly for each session in accordance with the course calendar and instructor's request.
- ii. Adhere to deadlines and timetables established by the instructor.
- iii. Display appropriate courtesy to all involved in the class sessions (courteous behavior specifically entails communicating in a manner that respects, and is sensitive to, the cultural, religious, sexual, and other individual differences in the college community).
- iv. Demonstrate respect for ideas, beliefs, and people.
- v. Students must inform instructor of all absences.
- vi. Students are responsible to make up the course work from the missed class.
- vii. Avoid chronic tardiness. Be here for when class starts.
- viii. Participate fully and constructively in all course activities and discussions as scheduled.
- ix. Students must verify all excused absences with the instructor.*

* Possible excused absences include but may not be limited to: military, bereavement, extended illness, participation in school function, jury duty.

**Portal Attendance Entries will consist of “Late,” “Unexcused,” “Excused.” (For example some departments use three “Lates” constitute 1 unexcused absence.)

Students taking online coursework will also follow the attendance policy dictated by the syllabus. The criteria for attendance are noted in the “Student Handbook” under Distance Education.

Satisfactory Academic Progress

Students must maintain a satisfactory Grade Point Average (GPA) as detailed below:

Undergraduate degree of more than one year	1 to 15 credits	16 to 30 credits	31 to 45 credits	46 and greater
	1.80	1.85	1.95	2.0

Certificate Program of one year or less	1 to 15 credits	16 and greater
	1.85	2.0

Additionally, students must complete at least 67% of credits attempted. Failure to maintain the prescribed CGPA may prevent students from progressing to higher level courses within their program and may result in dismissal from the program.

Students who are in danger of not meeting the CGPA requirement are advised to meet first with their faculty advisor, then with Financial Aid, and then with the Office of the Registrar to discuss alternatives and options.

Students must complete their degree at a pace of 150% for financial aid purposes; for example, a student in a two-year Associate degree program must complete within three years.

Information on minimum CGPAs for Physical Therapist Assistant, Radiologic Technology and Veterinary Technology students is in the Retention section for each respective program area.

Academic Probation

A student must achieve a cumulative grade point average (CGPA) equal to or greater than:

Undergraduate degree of more than one year	1 to 15 credits	16 to 30 credits	31 to 45 credits	46 and greater
	1.80	1.85	1.95	2.0

Certificate Program of one year or less	1 to 15 credits	16 and greater
	1.85	2.0

Students who do not meet these benchmarks will be placed on academic probation for the following semester.

Credits that are not calculated into the CGPA include I (incompletes), W (Withdrawals), P/F (Pass/Fail) and transfer credits.

Students will meet with the Academic Probation committee in advance of the semester to review and sign their individual Student Probation Action Plan. Failure to read and sign the document may result in being held from the classroom.

At the conclusion of the probation semester, the Registrar and the Academic Team will review the student progress and determine how to proceed based on 1) Academic performance, 2) adherence to the Student Probation Action Plan, 3) other factors. An inability to meet the minimum CGPA requirement specified above could result in additional interventions, future semesters on academic probation or termination from the College.

* Specific Probation policies for Physical Therapist Assistant, Radiologic and Veterinary Technology students can be found in their respective Programmatic Handbooks.

Students who fail to satisfy the minimum standards for academic progress may be dismissed from the College.

Withdrawal from the College

Students who wish to withdraw from Johnson College must:

- Meet with a Senior Director within the Office of Academics, Office of Financial Aid, Student Business Office and the Counselor / Manager of Disability Services
- Inform the Student Engagement Office, where applicable
- Complete an official Withdrawal form available from the Office of the Registrar or online at http://www.johnson.edu/docs/registrar/Withdrawal_Form.pdf

Upon official withdrawal, grades will be recorded on the transcript as “W” (Withdrew).

Johnson College does not consider absence from class an official notice of withdrawal. A student who stops attending class without officially withdrawing will receive the grade earned in that course.

Medical Withdrawal and Re-entry Policy

Johnson College observes a Medical Withdrawal and Re-entry Policy. Further information is available in the Johnson College **Student Information Handbook**.

Readmission Policy

Johnson College encourages students to complete their education degrees. To assist students in this endeavor, the College has established the following readmission policy.

Readmitted students are those students who have been separated from Johnson College for two consecutive semesters or less, excluding summer session, and who have earned more than 30 credits prior to seeking to return. Otherwise, the student is considered a new applicant and must contact the Enrollment Office to file a new application.

Students wishing to be readmitted, as defined above, must apply for readmission by contacting the Office of the Registrar. A readmission application must be completed and submitted with a \$50 readmission fee. Students who desire to be readmitted must have no financial balance and/or any other obligation due to the College.

Students wishing to return who were on academic probation at their time of separation from Johnson College may also be required to meet with a faculty advisor prior to being considered for re-admission.

Students who have been dismissed from Johnson College for academic reasons may seek

readmission using the procedure outlined above. The Office of the Registrar, Senior Director of Student Engagement, Department Chairperson, and a Senior Director within the Office of Academics make the decision for readmission jointly. Students will be enrolled on a probationary status and may be required to take a reduced academic schedule and/or complete an Academic Action Plan. (Individual program readmission criteria may be found in individual program handbooks.)

Students who are readmitted are required to complete the graduation requirements in effect at the time they re-enter Johnson College. Coursework previously completed will be evaluated to determine if it meets current requirements. Students who have taken courses at other post-secondary institutions since their last date of attendance at Johnson College must submit official college transcripts of that coursework.

Veterans' Readmission

Johnson College complies with Readmission Requirements for Service Members as outlined in the Higher Education Opportunity Act (HEOA) section 487.

The HEOA provides that an institution may not deny readmission to a service member of the uniformed services for reasons relating to that service. In addition, a student who is readmitted under this section must be readmitted with the same academic status as the student had when he or she last attended the institution.

This applies to service in the uniformed services, whether voluntary or involuntary, on active duty in the Armed Forces, including service as a member of the National Guard or Reserve, for a period of more than 30 days under a call or order to active duty of more than 30 days.

To view the full act visit: <http://www2.ed.gov/heoa>

Readmission Procedure

- 1) The Student Business Office will first review all applications to determine if the student is in good financial standing with the College, before they are considered for readmission.
- 2) Applications of students deemed eligible for readmission will be reviewed by the Office of the Registrar and will also be sent to the appropriate faculty member(s) for review and to determine if there are any stipulations to be added for readmission.
- 3) If a student originally left Johnson College for medical reasons, student must provide a medical release from a licensed medical provider to a Senior Director within the Office of Academics.

- 4) After notification of readmission and any requirements for readmission, student must meet with the Financial Aid and/or Student Business Office to develop a plan to finance their education.
- 5) Students then must complete normal course registration procedures in conjunction with an academic advisor or the registrar.
- 6) After meeting with the academic advisor or registrar, student will meet with the Office of the Registrar to fill out appropriate enrollment paperwork and to register for classes.

Graduation Requirements

Students must meet the following requirements in order to be eligible to graduate from Associate Degree programs:

- Completion of Curriculum Scope and Sequence requirements of each program.
- Completion of a minimum of 35 credits at Johnson College (requests for exceeding the College's minimum credit requirement must be submitted to the Office of the Registrar in writing and approved by a Senior Director within the Office of Academics)
- Completion of clinical/internship/cooperative education experience for students in the Biomedical Equipment Technology, Physical Therapist Assistant, Radiologic Technology and Veterinary Technology programs
- Achievement of a cumulative Grade Point Average (GPA) of 2.00. Refer to the Retention section in the respective program areas for Physical Therapist Assistant, Radiologic Technology and Veterinary Technology
- Full payment or satisfactory arrangement to fulfill all financial obligations
- Submission of a completed Graduation Application form by the stated deadline.

Students must meet the following requirements in order to be eligible to graduate from certificate program:

- Completion of 31 credits for Diesel Preventative Maintenance Certificate
- Completion of 30 credits for Welding Technology Certificate
- Full payment or satisfactory arrangement to fulfill all financial obligations
- Submission of a completed Graduation Application form by the stated deadline
- Completion of a minimum of 15 credits at Johnson College

Students who have not met the graduation requirements will not be allowed to participate in Commencement, will not be eligible for Commencement Awards, and will not have their names listed in the Commencement Program.

Academic Honors and Recognition

The President's List

The President's List is published at the end of each semester citing students who achieve a minimum 3.90 GPA, while carrying a minimum of 12 Johnson College credits and matriculating toward a degree. Students who receive a grade of W, F, or I on their transcript for the semester will not qualify for the President's List.

Honors upon Graduation

Graduating students are eligible for recognition based upon scholastic merit. Highest Honors Awards are conferred on graduates with the highest cumulative GPAs among the candidates for the Associate in Applied Science and the Associate in Science degrees. *Summa Cum Laude*, *Magna Cum Laude*, and *Cum Laude* are citations conferred by the College for exceptional academic achievement and completion of a challenging curriculum. Students who are in danger of not meeting graduation requirements at the time of commencement will not be awarded honors.

Graduation honors are calculated based on grades achieved at the end of the Fall semester preceding the May graduation date. December graduation honors are calculated based on grades achieved at the end of the Spring semester preceding the December graduation.

National Honor Society

Alpha Beta Kappa

Alpha Beta Kappa is a national honor society open to students who attain a cumulative GPA of 3.50 or higher by the beginning of their last semester at Johnson College and who have participated in a student group/organization for at least one semester during their time on campus. Eligible groups/organizations include Student Government Association, Social Force, Gamer Geekz, Johnson Activity Group, Kappa Psi Nu, athletics, and/or serving as a peer tutor, Ambassador, or Resident Assistant. Peer tutors must tutor a minimum of once a week for at least one semester. Students are inducted into the Omega of Pennsylvania chapter during a ceremony prior to graduation.

Second Degree

Students who wish to obtain a second degree may do so if they fulfill the following requirements:

- Students may not begin a second degree program until all the requirements from their first degree are satisfied.
- Students must apply for and be admitted into the major program in which the second degree is desired by the Enrollment Department.

- Students must meet all of the curriculum requirements of the second degree for both major and required courses and successfully complete those courses which cannot be equated with courses taken in the first degree program.
- Students must meet with the Registrar and/or the appropriate faculty member(s) of the second degree program to determine the minimum number of credits that need to be completed for the second degree in addition to the credits taken in the first degree program.

Non-Matriculating Students

A student who wishes to enroll as a non-degree seeking student at Johnson College may do so upon approval from the faculty leader and department representative of the desired program. Please contact the Office of the Registrar for more information regarding enrolling in classes. The form may be accessed via the following link: http://www.johnson.edu/docs/registrar/Non-atriculating_Student_Application.pdf

Student Records and Record Maintenance

In accordance with the Family Educational Rights and Privacy Act of 1974 (FERPA), student records are maintained in the Office of the Registrar of the College and are available for review by appointment during normal business hours. All documents are the property of Johnson College and may not be copied, duplicated or removed.

Student records may be viewed by College officials with a legitimate educational interest, certain federal and state agencies responsible for enforcement of the Privacy Act, officials of other colleges to which the student has sought enrollment, and accrediting institutions. In the case of a health or safety emergency, parents who claim a student as a dependent for income tax purposes may also view the records. All other requests for student educational records must have the written consent of the student.

The Privacy Act exempts certain records from the individual's examination, as follows:

- financial records of parents
- medical or paramedical records used only for treatment purposes; the individual may have a doctor or other competent professional review these records.
- law enforcement records that are used solely for law-enforcement purposes
- confidential letters of reference submitted prior to January 1, 1975 or letters of reference submitted after January 1, 1975 that were designated as confidential by the student at the time of his/her solicitation or submission.

Student Rights of Privacy and Access

Unless directed by the courts or by determination of a school official that a “need to know” situation exists, information other than “directory information” is not released without a student’s written consent. Directory information is determined to be a student’s name, address, telephone number, enrollment status, e-mail address, program of study, dates of attendance, participation in activities and sports, honors received, degrees awarded and dates of awarding.

If a student does not wish directory information to be released, a Request to Prevent Disclosure of Directory Information at

[http://www.johnson.edu/docs/registrar/Request to Prohibit Disclosure of Directory Information.pdf](http://www.johnson.edu/docs/registrar/Request_to_Prohibit_Disclosure_of_Directory_Information.pdf)

must be submitted to the Office of the Registrar within the first two weeks of a semester. Students may restrict directory information from being released without their permission; however, this also will prevent the Registrar from releasing information to the media regarding graduation or awards since that information includes the student’s address.

Johnson College assumes that failure on the part of any student to specifically request the withholding of categories of “directory information” indicates individual approval for disclosure.

Johnson College will not release grade information to a student’s parent(s) or guardian(s) without the student’s written permission; no grade information will be released over the telephone; transcripts will not be faxed or emailed.

Distance Education Classes

Johnson College currently offers select classes in a distance education format. Classes offered using this delivery will be noted during class registration in the spring, summer, and fall. These classes are also noted in the College’s catalog and require students to successfully complete the Student Online Success Strategies, a 60 minute training course. Students who fail to complete this training course will not be permitted to take any Distance Education (DE) coursework. Distance Education classes are provided to students to improve access to classes, provide flexibility options, and to reduce the amount of time needed to be on campus to complete their program. Students enrolled in a Distance Education class will have access to all library materials currently available to on-campus students. All online resources are connected to the college library’s homepage. This includes Destiny (OPAC-Online Public Access Catalog), LIRN (Library and Information Resources Network), an online database to full-text publications, and Online Reference Center. All book and magazine article requests will be delivered via USPS, email, or fax. The library will support Distance Education programs through

online access to electronic databases and access to the librarian by telephone, email requests or texting the librarian.

The written policies for each of the services provided to the Distance Education student are found in the Appendix of the Student Handbook (Distance Education Student Services Policy.) The services will be handled with the same resources used in the current face-to-face classes. These services include the following departments: Financial Aid, Department of Academics, Registrar, Student Business Office, and Career Services.

Academic Code of Conduct

EDUCATIONAL (ACADEMIC) INTEGRITY IN THE CLASSROOM, TECHNICAL AREA, and/or LABORATORY

The faculty of Johnson College has high regard for the integrity of the educational process; therefore, the school wishes to recognize students not only for their academic skills and dedication, but also according to a code of ethical academic behavior.

Good ethics include such principles as the following:

- Acting at all times with integrity
- Accepting responsibility for one's work
- Specifying contributing members of a group, where group work is authorized
- Naming references, where reference use is authorized
- Submitting work which is the sole creation of the student, when neither group work nor reference use is authorized

Never contributing to the academic dishonesty of others in the interest of protecting the grades of all honest students, Johnson College has adopted a set of disciplinary rules, which constitute academic dishonesty, and enforcement procedures, which will be applied to acts of dishonesty.

Academic dishonesty in any form will not be tolerated. Dishonesty includes, but is not limited to, the following:

- Cheating
- Plagiarism
- Submitting work which does not cite references used when working in courses where reference materials are authorized
- Submitting work which does not cite contributing members of the group when working in courses where group work is authorized
- Submitting work which has not been created solely by the individual seeking credit when working in courses where neither references nor group work is authorized

- Facilitating acts of academic dishonesty by others
- Tampering with academic work of others

Students involved in academic dishonesty will be penalized at the discretion of the instructor. This may result in any or all of the following penalties:

- An "F" in the course
 - Referral to the Senior Director of Academics
 - Referral to judicial authorities
 - Written notification to the student's technical/clinical department chairperson
- Penalties imposed by the Senior Director of Academics may include up to termination from student's program of study.

Academic Grievance Procedure

This policy is a uniform method by which students can pursue complaints about alleged violations of the institution's academic policies or about unfairness in the application of policies. In all cases, formal grievances must be filed and resolved within one semester of the occurrence of the event being grieved. (The summer enrollment period is considered as a semester.)

The following procedures must be used by a student who has a grievance:

1. Before filing a formal grievance, the student must contact the person(s) responsible for the academic decision to discuss the grievance.
2. If unable to reach a resolution, the student must contact the Department Chair who supervises the person against whom the complaint rests. The Department Chair shall arrange a conference of the faculty member, the student, and the Department Chair to seek an agreement.
3. If the grievance is not settled, the student must meet with the Division Chair who supervises the department or person against whom the complaint rests. The Division Chair shall arrange a conference of the faculty member, the student, the Department Chair, and the Division Chair to seek an agreement.
4. If unable to solve the problem at this level, the Division Chair shall refer the grievance to the Academic Grievance Board.

At this point the student must submit a formal written grievance with the Chief Academic Officer.

Schools accredited by the Accrediting Commission of Career Schools and Colleges must have a procedure and operational plan for handling student complaints. If a student does not feel that the school has adequately addressed a complaint or concern, the student may consider contacting the Accrediting Commission. All complaints considered by the Commission must be in written form, with permission from the complainant(s) for the Commission to forward a copy of the complaint to the school for a response. The complainant(s) will be kept informed as to the status of the complaint as well as the final resolution by the Commission. Inquiries may be directed to the Accrediting Commission of Career Schools and Colleges, 2101 Wilson Blvd./Suite 302, Arlington, VA 22201; (703) 247-4212; <http://www.accsc.org/>

A copy of the Commission's Complaint Form is available at the College and may be obtained by contacting a Senior Director within the Office of Academics.

STUDENT SERVICES

Student Information Handbook

The Johnson College **Student Information Handbook** is accessible through the Johnson College website at <http://www.johnson.edu/student-handbook> . The handbook is available to all students to explain assistance, regulations, organizations, scheduling, faculty, facilities, and curriculum. Johnson College adheres to a strict disciplinary sanction policy for violations of the campus rules and/or regulations. Students may reference this Sanction Policy in the Johnson College Student Handbook. It is the responsibility of the student to read the Handbook entirely and to comply with all regulations.

Facilities

Library / Resource Center

Patrons can access the library collection using Destiny, the Library's Online Public Access Catalog, which offers a variety of search strategies, including author, titles, subject and keyword searching.

The book collection exceeds 5,000 volumes. Continuous additions are made to these resources throughout the year to assure the students and faculty the most current information and the latest technology in each major field of study. Currently, the library receives over 100 periodicals, and an extensive collection of back issue periodicals is maintained.

The Library currently subscribes to the following online databases available on and off campus: GALE, ProQuest, CREDO Academic Core, and Statista available through LIRN (Library & Information Resources Network). In addition, the Library has over 50,000 e-book titles available through EBSCO's eBook Community College Collection. The Library also furnishes SLACK Interactive for the Physical Therapist Assistant program and On the Floor at Dove for our Veterinary Technology program.

Nineteen computer workstations are available for students. Accessible programs on these computers include Internet access, Microsoft Office, and program-related web resources, the library's catalog, and online databases.

The Library offers Interlibrary Loan (ILL) through OCLC's WorldShare Interlibrary Loan program.

Computer Labs

Three computer labs are conveniently located on campus for student use. Computers are equipped with the latest available versions Microsoft Windows and the Office Suite is

available online. Computers are also available in the Library / Resource Center for student use. Johnson College also provides wireless access campus wide.

Fitness Center

The Fitness Center at Johnson College is available free of charge to current students, faculty and staff. Located in the Moffat Student Center, the Fitness Center offers cardiovascular equipment and a selection of free weights. The hours of operation are contingent upon the facility's availability and will be closed on official college holidays.

Gymnasium

The Gymnasium, located in the Moffat Student Center is available to all current students, faculty and staff upon the facility's availability for "open gym." During open gym students, faculty and staff have the ability to participate in activities such as basketball, dodgeball, flag football, soccer, kickball and other activities. Equipment is available in the Student Engagement Office. Only sneakers or rubber-soled athletic shoes may be used on the gym floors.

Cafeteria

Located in the Moffat Student Center, the cafeteria is professionally staffed and provides breakfast, lunch, and snacks. The cafeteria is generally open Monday through Friday from 7:30am-5:00pm. Vending machines are available for after-hours snacks and beverages.

Student Housing Options

Campus Apartments - An apartment style housing community designed for 18 students. Each fully furnished apartment has a living room, eat-in kitchen, large bedroom, walk-in closet, bathroom, and is designed to house two students. The complex has a Community Room with games, television, coin operated washer and dryer, and mail facilities. Additionally, there is an outdoor recreation area with picnic tables, grills, and horseshoes.

Microtel - Johnson College has an arrangement with the Microtel in Dickson City, PA to house students. Each room is furnished with a desk and desk chair, (2) queen size beds with linen provided, a 42" flat screen television, telephone, microfridge and, full bathroom. Bed linens are changed weekly and toiletries and towels are changed daily. Additional amenities include a continental breakfast, access to the fitness facility, meeting room, ice machine, and coin operated washer and dryer.

For additional information, please refer to the Housing Guide located in the Student Engagement Office in the Moffat Student Center.

Bookstore

Johnson College provides students with an online bookstore for texts and supplies. The bookstore can be accessed by visiting <http://www.johnson.edu/current-students/student-resources/bookstore>.

The online store allows students a variety of choices in their book purchases. Students have options to purchase new or used text materials, or if available, utilize the book rental and eBook options. Any questions regarding your online purchases can be directed to the Library located in the Moffat Student Center.

Students should verify through e-campus the required textbook and materials for each course. To fulfill course requirements, some textbooks may need to be purchased directly through e-campus.

Career Services

Johnson College Career Services offers assistance to students and alumni seeking employment and internship opportunities. Career Services are available to help them to learn about their skills and interests as they relate to the exploration of career options as well as assistance with resume preparation, job search strategies, career fair preparation, interviewing skills and etiquette in individual appointments and class presentations. Career Services presentations are also conducted at Open House, Orientation, including Parent Panel and Student Success classes. Large Fall and Spring Career Fairs are held on campus where students and alumni can explore various employment opportunities with a variety of organizations and options for further education. The Director of Career Services regularly visits employers to learn more about the employment requirements and advises them of the various Johnson College technical programs in addition to Greater Scranton Chamber of Commerce and Leadership Lackawanna networking events. Information from these visits is shared with faculty, students and alumni. Employers are also invited to campus to present to students and conduct interviews. Presentations are also provided to students on topics such as LinkedIn, networking, as well as Federal and Civil Service applications and entrepreneurship. Job announcements are emailed to graduates and faculty from the appropriate program of study and posted on the Johnson College Group on LinkedIn.

STUDENT ENGAGEMENT

Student Services

Counseling Services

The mission of Counseling Services at Johnson College is to assist students who may be experiencing social, personal, or academic challenges. These services include individual sessions to students as well as psychoeducational programming and outreach. Faculty or staff members may refer students to the Counseling Services or students may self-refer. All supportive counseling services on campus are free and confidential. In some cases, the Counselor may decide that a student's needs would be best met through a community agency. Referrals to off-campus counseling/agencies may be made if a student's needs exceed the supportive services that we provide on campus.

Perkins Grant

The Perkins Grant program is a federal grant that enables Johnson College to provide support services to students who qualify within the program's guidelines. The program includes a comprehensive system of advising, counseling, and tutorial support.

Tutoring

Tutoring opportunities are available for general education and technical area courses. Scheduling of the tutoring session(s) is coordinated in conjunction with the Library and/or the Student Success Coaches and is dependent on the availability of the tutor and the student.

Students may be referred for tutoring by their instructor, their Student Success Coach, or they may self-refer. Students must register with the Library and/or the Student Success Coaches by completing a Tutor Intake form and signing a Student Tutor Contract. By signing these agreements, the student agrees to attend the scheduled tutoring sessions or to notify both the Library and/or Student Success Coach and tutor if they are unable to attend. If the student misses three sessions without notifying staff, the contract can be voided by Johnson College staff. The appointment time slot is then opened for another student. Tutors are comprised of both professional and peer tutors.

Tutoring services consist of individual and group sessions, and are offered in a scheduled and walk-in format.

Evaluations are completed each semester by the tutors and the tutees. There is no additional cost to the student for tutoring services.

Disability Services

The mission of Disability Services at Johnson College is to provide equal access opportunities, including the establishment and coordination of appropriate accommodations, auxiliary aids and programs to qualified students in accordance with Section 504 of the Rehabilitation Act of 1973 and Americans with Disabilities Act of 1990 as amended by the ADA Amendments Act of 2008. The office exercises a reasonable good faith effort to coordinate accommodations designed to enable students with permanent or temporary disabilities to maximize their educational potential. Students must contact the Counselor/Manager of Disability Services to find out what documentation may be required to substantiate the need for accommodations and to make a request for accommodations. Please refer to the Policies and Procedures section of the Student Handbook for additional information or contact the Counselor/Manager of Disability Services by phone at (570) 702-8956.

Student Success Coaches

This academic service is open to all currently-enrolled Johnson College students, faculty, and staff. Through the Academic Learning Center at Johnson College, you will find support for your academic goals in a friendly atmosphere. One of the many challenges for new students is developing learning and study skills for college level achievement. Our trained coaches are eager to assist you in your college experience by showing you strategies for effective learning, and working with you to improve your academic skills. This includes, but is not limited to, guiding you to find the proper resources to assist with successful strategies in time management, college reading, tutoring, and studying.

Educational Resources

Counseling and Disability Services has a full array of resources available for student use. Students may borrow resource materials on such subjects as study, test taking or note-taking skills; alcohol or relationship issues; self-esteem building; organizational and time management skills.

Deaf / Hard of Hearing

Students requesting a Sign Language Interpreter should contact the Counselor/Manager of Disability Services as soon as they are accepted to the college. Policies for students utilizing Sign Language Interpreting Services can be found in the Policies and Procedures section of the Student Handbook.

Student Responsibilities & Conduct

Johnson College students are responsible for reading and abiding by all rules and policies described in this Catalog, individual program area handbooks, and the Student Information Handbook which includes the Student Code of Conduct. Students are personally responsible for following policies and procedures as they affect their

academic progress, financial obligations, and relationships with College authorities, and eligibility for graduation.

Non-Discrimination Policy

Johnson College promotes a campus environment emphasizing the dignity and worth of all students, staff, and visitors that is free of discrimination. Johnson College does not discriminate against an individual's age, color, disability, gender identity, marital status, national origin, race, religion, sex, or sexual orientation, or any other legally protected class in admission, treatment, access to, or employment in its programs or activities. For questions or concerns regarding Title IX, please contact the Senior Director of Organizational Development. For questions or concerns regarding Section 504 of the Rehabilitation Act of 1973, please contact the Counselor/Manager of Disability Services.

Harassment and Sexual Violence

Johnson College promotes a campus environment emphasizing the dignity and worth of all students, staff, and visitors that is free of discrimination, harassment, and violence. Actions or threats against an individual's age, color, disability, gender identity, marital status, national origin, race, religion, sex, or sexual orientation, or any other legally protected class will not be tolerated. Anyone engaging in such behavior will be subject to appropriate disciplinary action, up to and including termination of campus employment and/or termination from his/her program of education. Any student, who becomes aware of these possible behaviors, should promptly advise the Student Engagement Office.

If a report about a possible sexual assault is made to a college administrator, faculty member, or staff member (other than to a campus counselor), the Student Engagement Office will be informed and will notify local authorities. Student victims will have the option to change their academic and/or on-campus living situations after an alleged sexual assault, if such changes are reasonably available.

Respect for the rights of personal safety and individual liberties are fundamental expectations of any academic community. The following restrictions are designed to protect the health and/or safety of the individual.

- **Harassment.** Includes such acts as, but is not limited to:
 - a. Attempting or threatening to subject another person to unwanted physical contact.
 - b. Stalking any person by any means including by physical, electronic, written or telephonic means.

- c. Persistent, pervasive, or severe bullying behaviors such as theft or destruction of personal property, public humiliation, intimidating or threatening behaviors.
 - d. Directing obscene language or gestures at another person or group of people in a threatening manner.
- **Rape.** The act of sexual intercourse without affirmative consent (see definition below) or with someone who is incapable of affirmative consent.
- **Sexual Assault.** Including but not limited to:
 - a. Any intentional and uninvited sexually explicit touching, or attempt or threat of such touching.
 - b. Any engagement in sexual activity with another person without their affirmative consent.
 - c. Sexual Violence including sexual battery and/or sexual coercion.

NOTE: Definition of Affirmative Consent- Affirmative consent is a knowing, voluntary, and mutual decision among all participants to engage in sexual activity. Consent can be given by words or actions, as long as those words or actions create clear permission regarding willingness to engage in sexual activity. Silence or lack of resistance, in and of itself, does not demonstrate consent. The definition of consent does not vary based upon a participant's sex, sexual orientation, gender identity or gender expression.

- Consent to any sexual act or prior consensual sexual activity between or with any party does not necessarily constitute consent to any other sexual act.
- Consent is required regardless of whether the person initiating the act is under the influence of drugs and/or alcohol.
- Consent may be initially given but withdrawn at any time.
- Consent cannot be given with a person is incapacitated, which occurs when an individual lacks the ability to knowingly choose to participate in sexual activity. Incapacitation may be caused by the lack of consciousness or being asleep, being involuntarily restrained, or if an individual otherwise cannot consent. Depending on the degree of intoxication, someone who is under the influence of alcohol, drugs, or other intoxicants may be incapacitated and therefore unable to consent.
- Consent cannot be given when it is the result of any coercion, intimidation, force or threat of harm.
- When consent is withdrawn or can no longer be given, sexual activity must stop.
 - **Sexual Harassment.** Sexual harassment in the educational setting is a form of discrimination on the basis of sex which includes unwelcome sexual advances, requests for sexual favors, or verbal, non-verbal, or physical conduct of a sexual nature which denies or limits a student's ability to participate in or to receive benefits, services and opportunities in the College's programs. Conduct of a sexual nature (verbal, non-verbal, or physical), which creates an intimidating, hostile, or offensive environment is prohibited.

- **Bias-Related Harassment.** Harassment based on race, color, age, religion, or national origin, disability, sexual orientation, gender identity or other protected characteristics is oral, written, graphic or physical conduct relating to an individual's race, color, gender identity or national origin (including an individual's ancestry, country of origin, or country of origin of the student's parents, family members, or ancestors) or other protected characteristics that is sufficiently severe, pervasive, or persistent so as to interfere with or limit the ability of an individual to participate in or benefit from the educational institution's programs or activities. Such bias-related acts may subject the offender(s) to more serious levels of sanctioning.
- **Dating Violence.** Dating violence is any act of violence committed by a person who is or has been in a social relationship of a romantic or intimate nature with the victim. The existence of such a relationship shall be determined based on the victim's statement and with consideration of the type and length of the relationship and the frequency of interaction between the persons involved in the relationship. Two people may be in a romantic or intimate relationship, regardless of whether the relationship is sexual in nature; however, neither a casual acquaintance nor ordinary fraternization between two individuals in a business or social context shall constitute a romantic or intimate relationship. This definition does not include acts covered under domestic violence.
- **Domestic Violence.** Domestic violence is any violent felony or misdemeanor crime committed by a current or former spouse or intimate partner of the victim, a person sharing a child with the victim, or a person cohabitating with the victim as a spouse or intimate partner.

NOTE: Students' Bill of Rights

Johnson College is committed to providing options, support and assistance to victims/survivors of sexual assault, domestic violence, dating violence, and/or stalking to ensure that they can continue to participate in College -wide and campus programs, activities, and employment. All victims/survivors of these crimes and violations, regardless of race, color, national origin, religion, creed, age, disability, sex, gender identity or expression, sexual orientation, familial status, pregnancy, predisposing genetic characteristics, military status, domestic violence victim status, or criminal conviction, have the following rights, regardless of whether the crime or violation occurs on campus or off campus. All students have the right to:

- Make a report to local law enforcement or state police;
- Have disclosures of domestic violence, dating violence, stalking and sexual assault treated seriously;
- Make a decision about whether or not to disclose a crime or violation and participate in the judicial or conduct process and/or criminal justice process free from pressures from the institution;

- Participate in a process that is fair, impartial, and provides adequate notice and a meaningful opportunity to be heard.
- Be treated with dignity and to receive from the institution courteous, fair, and respectful health care and counseling services where available.
- Be free from any suggestion that the reporting individual is at fault when these crimes and violations are committed, or should have acted in a different manner to avoid such crimes or violations.
- Describe the incident to as few institutional representatives as practicable and not to be required to unnecessarily repeat a description of the incident.
- Be free from retaliation by the institution, the accused, and/or the respondent, and/or their friends, family and acquaintances within the jurisdiction of the institution;
- Access to at least one level of appeal of a determination which shall be considered by a panel, not a single person.
- Be accompanied by an advisor of choice who may assist and advise a reporting individual, accused, or respondent throughout the judicial or conduct process including during all meetings and hearings related to such process;
- Exercise civil rights and practice of religion without interference by the investigative, criminal justice, or judicial or conduct process of the College.
- Options in Brief- Victims/survivors have many options that can be pursued simultaneously, including one or more of the following:
 - Receive resources, such as counseling and medical attention;
 - Confidentially or anonymously disclose a crime or violation
 - Make a report to any employee and/or local law enforcement

PROGRAM OBJECTIVES AND EMPLOYMENT OPPORTUNITIES

Descriptions of programs on the following pages include a sequence of courses for each program. The sequence is designed to satisfy prerequisite requirements, to ensure access to courses that are not available every semester, and to ensure the completion of course requirements. Students are encouraged to adhere to the sequence as much as possible in order to complete the program in the traditional two-year time frame.

The sequence of the programs by semester addresses students starting the program in the fall. Johnson College recognizes that not all students are able to progress through the course sequence as presented. Students admitted into and beginning their coursework at the college in the spring semester should consult with an Enrollment Specialist and/or the Program Director for further information.

Students who are not able to adhere to the sequence are encouraged to consult with their faculty advisors in order to ensure completion of graduation requirements.

Advanced Manufacturing Engineering Technology (AAS)

Program Objective

The Advanced Manufacturing Engineering Technology program is designed to prepare students for the modern manufacturing environment of today. This program will prepare students for entry level positions within companies that have implemented team-oriented design, production, quality, and maintenance systems within the manufacturing environment. The technical courses provide the graduate with a solid foundation of advanced manufacturing procedures. The combination of the general education courses and technical courses equip the graduates with the communication, mathematics, and problem solving skills necessary to perform in the modern workplace.

Career Opportunities

American manufacturers are becoming increasingly dependent upon the use of high-tech equipment that involves multiple, integrated systems. It is critical that these companies be able to recruit and employ individuals who know how to operate, troubleshoot, and maintain this high-tech equipment.

Program Learning Goals:

Goal 1: Graduates will possess the skills necessary to obtain entry-level technical positions in the manufacturing environment.

Student Learning Outcomes - Students will:

- Demonstrate the knowledge of work environment, behavior and dress
- Demonstrate the ability to properly choose and wear personal protective equipment (PPE)
- Demonstrate correct and safe hand tool use

Goal 2: Graduates will be able to troubleshoot electrical, electronic, and mechanical systems using theoretical principles and measured values to resolve operational issues.

Student Learning Outcomes - Students will:

- Demonstrate competence in digital multimeter use
- Recognize the effects of mechanical malfunctions
- Employ corrective actions to make repairs to systems under test

Goal 3: Graduates will demonstrate the ability to communicate in a professional manner to determine the nature of a problem or to explain repairs.

Student Learning Outcomes - Students will:

- Describe a malfunction found and propose corrective action to remedy the situation
- Provide written communication on work performed

Goal 4: Graduates will demonstrate the proper and safe use of hand tools, measuring equipment and test equipment used during manufacturing or troubleshooting.

Student Learning Outcomes - Students will:

- Demonstrate correct and accurate use of measuring instruments
- Demonstrate correct use of a multimeter to measure voltage, resistance and current in series, parallel and series/parallel circuits.

Goal 5: Graduates will possess the skills necessary to correctly and safely operate machines used in the production of mechanical parts.

Student Learning Outcomes - Students will:

- Demonstrate the ability to safely setup and operate manual lathes, mills and CNC machines

Pregnancy Policy

It is the student's choice whether or not to inform the Department Chairperson of a pregnancy. If a student chooses not to do so, no accommodations can be made regarding the student's internship assignment or program of study. Students who choose to disclose their pregnancy should contact the Department Chair.

Advanced Manufacturing Engineering Technology Major Courses (41 Credits)

AMT 101	Principles for Advanced Manufacturing	3
AMT 111	Fundamentals of Metal Cutting/Lab	3
AMT 112	Subtractive Manufacturing/Lab	3
AMT 121	Introduction to Electricity/Lab	3
AMT 122	Sensors and Systems in Automation	3
AMT 206	Systems Integration (Capstone Project)/Lab	4
AMT 208	or Internship	
AMT 211	Computer Numerical Control Machining/Lab	3
AMT 213	Computer Aided Design/ Computer Aided Manufacturing/Lab	3
AMT 214	Additive Manufacturing /Lab	3
AMT 221	Programmable Logic Controllers/Lab	4
AMT 223	Automation and Robotics/Lab	3
BRT 105	Blueprint/Schematic Reading	3
LOG 291	Total Quality Management	3

General Education - (21 Credits)

BUS 101	Introduction to Business	3
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
ENG 212	Public Speaking	3
MAT 101	College Algebra I and Trigonometry	3
MAT 121	Introduction to Statistics	3
PHY 101	Introductory Physics	3

Other requirements

SS 101	Student Success Seminar	1
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Minimum Credits to Graduate **63**

The sequence of classes on the following page addresses students starting the program in the fall. Students admitted into and beginning their coursework in the spring semester should consult with an Enrollment Specialist and/or the Program Director for further information.

**Advanced Manufacturing Engineering Technology
Associate in Applied Science (AAS)
Semester Program Outline**

		Credits
Semester 1		
AMT 101	Principles for Advanced Manufacturing	3
AMT 111	Fundamentals of Metal Cutting/Lab	3
AMT 121	Introduction to Electricity/Lab	3
ENG 101	English Composition I	3
MAT 101	College Algebra I and Trigonometry	3
SS 101	Student Success Seminar	1
		16
Semester 2		
AMT 112	Subtractive Manufacturing/Lab	3
AMT 122	Sensors and Systems in Automation/Lab	3
BRT 105	Blueprint/Schematic Reading	3
CPT 101	Microcomputer I	3
MAT 121	Introduction to Statistics	3
		15
First Year Totals		31
Semester 3		
AMT 211	Computer Numerical Control Machining/Lab	3
AMT 221	Programmable Logic Controllers/Lab	4
BUS 101	Introduction to Business	3
ENG 212	Public Speaking	3
PHY 101	Introductory Physics	3
		16
Semester 4		
AMT 206	Systems Integration (Capstone Project)/Lab or AMT 208	4
AMT 208	Internship	4
AMT 213	Computer Aided Design/ Computer Aided Manufacturing/Lab	3
AMT 214	Additive Manufacturing/Lab	3
AMT 223	Automation and Robotics/Lab	3
LOG 291	Total Quality Management	3
		16
Second Year Totals		32
Program Totals		63
Minimum Credits to Graduate		63

Architectural Drafting & Design Technology (AAS)

Program Objective

The Architectural Drafting & Design Technology program prepares students as entry-level technicians in computer-assisted drafting (CAD) and Building Information Modeling (BIM) for residential and commercial construction. Students will work and learn in all areas of Architectural design and drafting. Instruction and hands-on learning includes all phases of building design drafting, print reading, cost estimating, specifications writing and sustainability concepts.

Career Opportunities

Graduates work as designers, computer drafting technicians, construction estimators, architects' representatives, engineering technicians, facility management technicians and field construction inspectors.

Typical employers in the architectural career field are residential, commercial, and industrial contractors and land developers; architectural design firms, civil design firms, and structural engineering companies; modular and mobile home builders; facilities management companies; real estate developers; and government design agencies.

Program Learning Goals:

Goal 1: Graduates will acquire the skills necessary to obtain an entry-level position in the design field.

Student Learning Outcomes - Students will:

- Accurately draw architectural drawings
- Interpret architectural drawings and sketches
- Coordinate design skills to complete projects

Goal 2: Graduates will demonstrate professional behavior and ethics in order to meet the challenges of work within their field.

Student Learning Outcomes - Students will:

- Work in a team environment
- Be willing to learn new skills

Goal 3: Graduates will acquire critical thinking and decision making skills.

Student Learning Outcomes - Students will:

- Make project decisions based on design skills, codes and ordinances
- Organize and prioritize projects

Certification

American Drafting and Design Association International (ADDA)

Pregnancy Policy

It is the student's choice whether or not to inform the Department Chairperson of a pregnancy. If a student chooses not to do so, no accommodations can be made regarding the student's internship assignment or program of study. Students who choose to disclose their pregnancy should contact the Department Chair.

Architectural Drafting & Design Technology Major Courses (40 Credits)

ADT 113	Residential Planning/Lab	4
ADT 114	Introduction to Computer Assisted Drafting (CAD)/Lab	4
ADT 120	Contract Drawings	3
ADT 121	Residential Cost Estimating	3
ADT 220	Building Information Modeling, Residential/Lab	4
ADT 221	Building Information Modeling, Commercial/Lab	4
ADT 223	Codes and Ordinances	3
ADT 224	Specifications	3
ADT 225	Commercial Cost Estimating	3
ADT 226	Sustainability Design or ADT 217 or ADT 218	3
ADT 217	Internship	4
ADT 218	Co-op Educational Experience	4
BUS 110	Business Research and Report Writing	3
MCH 201	Statics & Strength of Materials	3

General Education - (20 Credits)

BUS 101	Introduction to Business	3
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
ENG 212	Public Speaking	3
MAT 101	College Algebra I and Trigonometry	3
MAT 110	Trigonometry	3
General Education Electives (2/3 Credits)		2/3

Other requirements

SS 101	Student Success Seminar	1
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Minimum Credits to Graduate **61**



This course prepares students with skills labeled by the Commonwealth of Pennsylvania as those used in traditional or evolving green occupations.

The sequence of classes on the following page addresses students starting the program in the fall. Students admitted into and beginning their coursework in the spring semester should consult with an Enrollment Specialist and/or the Program Director for further information.

Architectural Drafting & Design Technology

Associate in Applied Science (AAS)

Semester Program Outline

		Credits
Semester 1		
ADT 114	Introduction to Computer Assisted Drafting (CAD) Planning/Lab	4
ADT 120	Contract Drawings	3
BUS 101	Introduction to Business	3
ENG 101	English Composition I	3
MAT 101	College Algebra I and Trigonometry	3
SS 101	Student Success Seminar	1
		17
Semester 2		
ADT 113	Residential Planning/Lab	4
ADT 121	Residential Cost Estimating	3
BUS 110	Business Research and Report Writing	3
CPT 101	Microcomputer I	3
MCH 201	Statics & Strength of Materials	3
		16
First Year Totals		33
Semester 3		
ADT 220	Building Information Modeling, Residential/Lab	4
ADT 223	Codes and Ordinances	3
ADT 224	Specifications	3
ENG 212	Public Speaking	3
MAT 110	Trigonometry	3
		16
Semester 4		
ADT 221	Building Information Modeling, Commercial/Lab	4
ADT 225	Commercial Cost Estimating	3
ADT 226	Sustainability Design	3
	or ADT 217 or ADT 218	4
ADT 217	Internship	4
ADT 218	Co-op Educational Experience	4
	General Education Elective	2/3
		12/13/14
Second Year Totals		28/29/30
Program Totals		61/62/63
Minimum Credits to Graduate		61

Automotive Technology (AAS)

Program Objective

The Automotive Technology program prepares students as entry-level technicians in the automobile and diesel industries.

Career Opportunities

Graduates can work for employers in the automotive career fields of automotive, truck, farm and earthmoving equipment dealerships; truck, power generation and construction companies; automotive service centers; engine repair/machine shops; automotive equipment distributors; independent service garages; automotive parts manufacturers; sales representation; and auto insurance companies. Graduates may work with brake systems, transmissions, alignments and repairs; be representatives in claim, sales and service, or become truck/fleet maintenance technicians.

Program Learning Goals

Goal 1: Graduates will possess the appropriate skills needed for entering the Automotive Technology field.

Student Learning Outcomes - Students will:

- Identify tools necessary to perform job duties
- Demonstrate ability to perform basic automobile services
- Practice Safe work habits for all jobs performed

Goal 2: Graduates will understand the importance of professional behavior, as well as comply with the daily changes within the Automotive Industry and will meet the challenges of continued growth within the Automotive Technology Profession.

Student Learning Outcomes - Students will:

- Interpret basic repair instructions
- Follow diagnostic flow charts to properly diagnose problems
- Take basic skills to the next level with on the job training

Goal 3: Graduates will be provided the skills that will allow them to choose careers in the field.

Student Learning Outcomes - Students:

- Can become electrical systems specialists
- Will be able to recognize importance of customer satisfaction
- Can use their automotive knowledge to become Parts Specialists

Programmatic Accreditation

The Automotive Technology program is accredited by the National Automotive Technician Education Foundation (NATEF), 101 Blue Seal Drive, S.E., Suite 101, Leesburg, VA 20175

Email: webmaster@natef.org

Phone: (703) 669-6650

Website: www.natef.org

Senior Testing Fees

In addition to tuition, Automotive Technology Students will have fees associated with their major reflected yearly per the Enrollment Agreement. These fees cover State and Federal Licensing Requirements. These are all mandatory to complete the program. State inspection fees can be waived for those students who have achieved this credential and/or out-of-state students not needing such a credential.

Pregnancy Policy

It is not required to tell the instructor if you are pregnant but it is highly recommended because of the lifting and other requirements of the program that may jeopardize the health of the mother and fetus. Please consult with your instructor on the best way to approach your individual condition.

Automotive Technology Major Courses (41 Credits)

VMR 141	Introduction to Vehicle Maintenance & Repair Technology/Lab	3
VMR 142	Brake Systems/Lab	3
VMR 143	Steering and Suspension Systems/Lab	3
VMR 144	Electrical & Electronic Systems/Lab	3
VMR 245	HVAC Vehicle Systems/Lab	3
AUT 155	Engine Performance & Emissions/Lab	3
AUT 158	Internal Combustion Engine Fundamentals/Lab	3
AUT 241	Gasoline Engine Overhaul Procedures/Lab	4
AUT 252	Fuel Injection Systems/Lab	3
AUT 254	Automatic Transmissions & Transaxles/Lab	3
AUT 255	Manual Transmissions & Differentials/Lab	3
AUT 247	Internship or AUT 248 or AUT 249	4
AUT 248	Co-op Educational Experience	4
AUT 249	Automotive Electrical Technology/Lab	4
IET 101	Introduction to Automotive and Diesel Electronics	3
General Education (20 Credits)		
BUS 101	Introduction to Business	3
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
ENG 212	Public Speaking	3
MAT 101	College Algebra I and Trigonometry	3
General Education Electives (5/6 Credits)		5/6
Other Requirements		
SS 101	Student Success Seminar	1
Minimum Credits to Graduate		62



This course prepares students with skills labeled by the Commonwealth of Pennsylvania as those used in traditional or evolving green occupations.

The sequence of classes on the following page addresses students starting the program in the fall. Students admitted into and beginning their coursework in the spring semester should consult with an Enrollment Specialist and/or the Program Director for further information.

Automotive Technology
Associate in Applied Science (AAS)
Semester Program Outline

		Credits
Semester 1		
VMR 141	Introduction to Vehicle Maintenance & Repair Technology/Lab	3
VMR 142	Brake Systems/Lab	3
VMR 143	Steering and Suspension Systems/Lab	3
IET 101	Introduction to Automotive & Diesel Electronics	3
CPT 101	Microcomputer I	3
SS 101	Student Success Seminar	1
		16
Semester 2		
VMR 144	Electrical & Electronic Systems/Lab	3
AUT 155	Engine Performance & Emissions/Lab	3
AUT 158	Internal Combustion Engine Fundamentals/Lab	3
BUS 101	Introduction to Business	3
ENG 101	English Composition I	3
MAT 101	College Algebra I and Trigonometry	3
		18
First Year Totals		34
Semester 3		
AUT 241	Gasoline Engine Overhaul Procedures/Lab	4
AUT 252	Fuel Injection Systems/Lab	3
AUT 254	Automatic Transmissions & Transaxles/Lab	3
ENG 212	Public Speaking	3
	General Education Elective	3
		16
Semester 4		
VMR 245	HVAC Vehicle Systems/Lab	3
AUT 255	Manual Transmissions & Differentials/Lab	3
AUT 247	Internship or AUT 248 or AUT 249	4
AUT 248	Co-op Educational Experience	4
AUT 249	Automotive Electrical Technology/Lab	4
	General Education Elective	2/3
		12/13
Second Year Totals		28/29
Program Totals		62/63
Minimum Credits to Graduate		62

Biomedical Equipment Technology (AAS)

Program Objective

The Biomedical Equipment Technology program prepares students as entry-level biomedical technicians with skills training that include medical terminology and human physiology principles, as well as the maintenance and support, planning and acquisition, and installation of medical equipment according to standards and guidelines.

Career Opportunities

Graduates work as technicians and sales representatives in the field of Healthcare Technology Management (HTM). Typical employers in this field are hospitals; medical centers; contract maintenance firms; dental, medical, and optical facilities; computer, electronic and medical instrumentation manufacturers.

Program Learning Goals:

Goal 1: Graduates will possess the skills necessary to obtain an entry-level Biomedical Technician position.

Student Learning Outcomes - Students will:

- Successfully complete a 200 hour biomedical internship
- Acquire the broad knowledge necessary for success as a Biomedical Technician as demonstrated by passing required courses in Chemistry, Physics, Mathematics, Anatomy & Physiology as well as their core Biomedical Program courses.
- Demonstrate competency in biomedical tasks through successful completion of lab work and practical tests that are patterned after tasks required in the field.

Goal 2: Graduates have proven their understanding of many requirements of Healthcare Technology Management such as maintenance, repair, and record-keeping for medical equipment

Student Learning Outcomes - Students will:

- Demonstrate maintenance skills by disassembly, and preventive maintenance as necessary on medical devices during assigned biomedical lab work.
- Demonstrate skills in using a computerized medical maintenance software system through successfully completing assigned labs that include inventory, work order generation and completion.

Goal 3: Graduates have proven competence with biomedical test equipment and basic testing techniques on common medical devices through hands-on competency tests.

Student Learning Outcomes - Students will:

- Demonstrate skills with specialized biomedical test equipment on real medical devices meeting a 90% minimum score on each test as a requirement for completion of the course.
- Demonstrate knowledge and skills required to verify correct performance of selected medical devices meeting a 90% minimum score on each test as a requirement for completion of the course.

Special Enrollment Requirements

Prior to the start of the first semester, students must provide proof of a criminal background check and hepatitis B vaccination. Proof of a PPD two-step testing (TB test) is required prior to the start of the student's second year.

Internship/Cooperative Education Experience

A 200 hour internship or cooperative education experience at an approved site is a requirement for graduation and must be completed in the last semester of the second year. Continuation of internship past the end of semester is permitted with prior approval. Students must satisfy the internship requirements of both Johnson College and the internship provider. Students are required to make their own arrangements for internship, which may be outside the local area. Students must have a cumulative GPA of 2.00 to qualify for an internship.

Many internship sites require proof of current health care coverage, criminal, child abuse and FBI background checks, and/or drug and nicotine tests. Internship sites may bar students from an internship if a criminal record exists or a drug/nicotine test has a positive result. Johnson College cannot guarantee internship placement. Costs for travel to and from an internship site are the responsibility of the student. Internships are typically unpaid.

Pregnancy Policy

It is the student's choice whether or not to inform the Department Chairperson of a pregnancy. If a student chooses not to do so, no accommodations can be made regarding the student's internship assignment or program of study. Students who choose to disclose their pregnancy should contact the Department Chair.

Biomedical Equipment Technology Major Courses (45 Credits)

EET 111	DC Electricity and Instrumentation/Lab	3
EET 112	Alternating Current and Passive Devices/Lab	3
EET 113	Introduction to Semiconductors/Lab	3
EET 114	Integrated Circuits & Thyristors/Lab	3
EET 115	Digital Electronics I/Lab	3
EET 106	Digital Electronics II/Lab	4
BET 201	Medical Equipment Standards and Testing/Lab	4
BET 203	Physiological Monitoring Devices/Lab	4
BET 204	Life Support Systems/Lab	4
BET 215	Specialized Medical Systems/Lab	3
BET 207	Internship or BET 208	4
BET 208	Co-op Educational Experience	4
CIT 163	Network Architectures, Principles, and Protocols/Lab	4
PHA 201	Physiology and Anatomy	3
General Education (22 Credits)		
CHE 101	Chemistry I	3
CHE 101L	Chemistry I Lab	1
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
ENG 212	Public Speaking	3
MAT 101	College Algebra I and Trigonometry	3
MAT 201	College Algebra II and Trigonometry	3
PHY 101	Introductory Physics	3
Other requirements		
SS 101	Student Success Seminar	1
Minimum Credits to Graduate		68



This course prepares students with skills labeled by the Commonwealth of Pennsylvania as those used in traditional or evolving green occupations.

The sequence of classes on the following page addresses students starting the program in the fall. Students admitted into and beginning their coursework in the spring semester should consult with an Enrollment Specialist and/or the Program Director for further information.

Biomedical Equipment Technology
Associate in Applied Science (AAS)
Semester Program Outline

		Credits
Semester 1		
EET 111	DC Electricity and Instrumentation/Lab	3
EET 112	Alternating Current and Passive Devices/Lab	3
EET 115	Digital Electronics I/Lab	3
CHE 101	Chemistry I	3
CHE 101L	Chemistry	
Lab	1	
MAT 101	College Algebra I and Trigonometry	3
SS 101	Student Success Seminar	1
		17
Semester 2		
EET 106	Digital Electronics II/Lab	4
EET 113	Introduction to Semiconductors/Lab	3
EET 114	Integrated Circuits & Thyristors/Lab	3
ENG 101	English Composition I	3
PHA 201	Physiology and Anatomy	3
PHY 101	Introductory Physics	3
		19
First Year Totals		36
Semester 3		
BET 201	Medical Equipment Standards and Testing/Lab	4
BET 203	Physiological Monitoring Devices/Lab	4
CIT 163	Network Architectures, Principles, and Protocols/Lab	4
CPT 101	Microcomputer I	3
MAT 201	College Algebra II & Trigonometry	3
		18
Semester 4		
BET 204	Life Support Systems/Lab	4
BET 215	Specialized Medical Systems/Lab	3
BET 207	Internship or BET 208	4
BET 208	Co-op Educational Experience	4
ENG 212	Public Speaking	3
		14
Second Year Totals		32
Program Totals		68
Minimum Credits to Graduate		68

Business Management

Logistics & Supply Chain Management Track (AAS)

Program Objective

Logistics & Supply Chain Management prepares students for industry certification exams and entry-level management positions in the field of supply chain management. Careers include inventory management, master resource planning, scheduling and planning, transportation logistics management, route planning, physical distribution management, transportation marketing, customer service, procurement, quality control and operations management. Typical employers include warehousing and transportation distributors, large manufacturing facilities, retail and wholesale distributors.

Career Opportunities

Typical employers include warehousing and transportation distributors, large manufacturing facilities, government, third party logistics, retail and wholesale distributors.

Program Learning Goals

Goal 1: Graduates will possess the skills necessary to obtain industry certification and entry-level positions in logistics and supply chain management areas.

Student Learning Outcomes:

- Graduates will demonstrate the ability to manage the complete flow of material in a supply chain.
- Graduates will apply statistical analysis to answer questions important to making sound business decisions.
- Graduates will demonstrate PC literacy, specifically with the Microsoft Office Suite.
- Graduates will forecast inventory requirements.
- Graduates will develop delivery schedules in accordance to customer needs.
- Graduates will develop a master schedule.

Goal 2: Graduates will possess the appropriate skills needed for supervision, decision-making, project management, and critical thinking, allowing for advancement into supervisory positions.

Student Learning Outcomes:

- Graduates will demonstrate effective writing skills.
- Graduates will demonstrate effective verbal communication skills.

- Graduates will evaluate business situations to determine customer and employee needs.
- Graduates will apply decision-making techniques via case study analysis to determine optimal outcomes.

Goal 3: Graduates will be able to recognize areas for improvement that will lead to cost reductions and provide logistical advantages over the competition.

Student Learning Outcomes:

- Graduates will identify and mitigate project costs.
- Graduates will identify and mitigate project risks.
- Graduates will interpret financial statements
- Graduates will turn source documents into trackable transactions to be used in decision-making for business.

Internship/Cooperative Education Experience

A 200 hour internship or cooperative education experience at an approved site may be completed after a student has completed 30 credits and receives approval from the Department Chairperson. Students electing to complete an internship or cooperative education experience must satisfy the internship requirements of both Johnson College and the internship provider as a condition of graduation. Students must have a cumulative GPA of 2.00 to meet the minimum qualification for internship through Johnson College. Some internship sites may require students to obtain a higher GPA in their agreement. Some internship sites may also require proof of current health care coverage, a criminal background check, and/or a drug test. Internship sites may bar students from an internship if a criminal record exists or a drug test has a positive result. Costs for travel to and from an internship site are the responsibility of the student. The schedule for meeting the requirement of this experience will be arranged between the student, faculty member and internship site.

Pregnancy Policy

It is the student's choice whether or not to inform the Department Chairperson of a pregnancy. If a student chooses not to do so, no accommodations can be made regarding the student's internship assignment or program of study. Students who choose to disclose their pregnancy should contact the Department Chair.

**Business Management
Logistics & Supply Chain Management Track
Major Courses (43 Credits)**

LOG 191	Basics of Supply Chain Management	3
LOG 192	Transportation Management	3
LOG 194	Warehousing and Distribution	3
LOG 195	Production and Inventory Control	3
LOG 291	Total Quality Management	3
LOG 294	International Logistics	3
LOG 297	Internship or	4
LOG 298	Co-op Educational Experience or	
LOG 299	Capstone	
ACC 101	Accounting I	3
BSL 201	Business Law	3
BUS 101	Introduction to Business	3
BUS 201	Project Management	3
ECO 211	Introduction to Macroeconomics	3
MNG 185	Principles of Management	3
MNG 284	Management and Supervision	3

General Education Courses (21 Credits)

CPT 101	Microcomputer I	3
ECO 111	Introduction to Microeconomics	3
ENG 101	English Composition I	3
ENG 212	Public Speaking	3
PSY 105	Industrial and Organizational Psychology	3
MAT 121	Introduction to Statistics	3
SOC 101	Introduction to Sociology	3

Other requirements

SS 101	Student Success Seminar	1
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Minimum Credits to Graduate 65

The sequence of classes on the following page addresses students starting the program in the fall. Students admitted into and beginning their coursework in the spring semester should consult with an Enrollment Specialist and/or the Program Director for further information.

**Business Management -
Logistics & Supply Chain Management Track
Associate in Applied Science (AAS)
Semester Program Outline**

		Credits
Semester 1		
BUS 101	Introduction to Business	3
CPT 101	Microcomputer I	3
ECO 111	Introduction to Microeconomics	3
ENG 101	English Composition I	3
SOC 101	Introduction to Sociology	3
SS 101	Student Success Seminar	1
		16
Semester 2		
LOG 191	Basics of Supply Chain Management	3
LOG 192	Transportation Management	3
ECO 211	Introduction to Macroeconomics	3
ENG 212	Public Speaking	3
MAT 121	Introduction to Statistics	3
		15
First Year Totals		31
Semester 3		
ACC 101	Accounting I	3
BUS 201	Project Management	3
PSY 105	Industrial and Organizational Psychology	3
LOG 194	Warehousing and Distribution	3
LOG 195	Production and Inventory Control	3
MNG 185	Principles of Management	3
		18
Semester 4		
BSL 201	Business Law	3
LOG 291	Total Quality Management	3
LOG 294	International Logistics	3
LOG 297	Internship or LOG 298 or LOG 299	4
LOG 298	Co-op Educational Experience	
LOG 299	Capstone	
MNG 284	Management and Supervision	3
		16
Second Year Totals		34
Program Totals		65
Minimum Credits to Graduate		65

Business Management Project Management Track (AAS)

Program Objective

Students successfully completing this program will be able to demonstrate the skills necessary for entry-level employment in a variety of business and management settings, including utilities, manufacturing, merchandising, retail, sales, construction, consulting, government, supply chain and non-profit organizations. More advanced program outcome skills include project and business design, budgeting, team management, project management, and project evaluation.

Career Opportunities

Careers can lead to a variety of entry and supervisory level positions in construction, architectural firms, sales, customer service, office management, supply chain and project management organizations. Potential job titles include project coordinator, project administrator, and sales or customer service supervisor. Students who continue to work in the field can look forward to positions like scheduler, cost estimator, sales manager, and procurement planner. The degree also offers career enhancement through the addition of marketable skills in one's current field of employment.

Program Learning Goals

Goal 1: Graduates will possess the skills necessary to obtain industry certification and entry-level positions in business.

Student Learning Outcomes:

- Graduates will apply statistical analysis to answer questions important to making sound business decisions.
- Graduates will demonstrate PC literacy, specifically with the Microsoft Office Suite.
- Graduates will apply the principles found in the Project Management Body of Knowledge (PMBOK).

Goal 2: Graduates will possess the appropriate skills needed for supervision, decision-making, project management, and critical thinking, allowing for advancement into supervisory positions.

Student Learning Outcomes:

- Graduates will demonstrate effective writing skills.
- Graduates will demonstrate effective verbal communication skills.
- Graduates will evaluate business situations to determine customer and employee needs.

- Graduates will apply decision-making techniques via case study analysis to determine optimal outcomes.

Goal 3: Graduates will be able to recognize areas for improvement that will lead to cost reductions and provide logistical advantages over the competition.

Student Learning Outcomes:

- Graduates will identify and mitigate project costs.
- Graduates will identify and mitigate project risks.
- Graduates will interpret financial statements
- Graduates will turn source documents into trackable transactions to be used in decision-making for business.

Pregnancy Policy

It is the student's choice whether or not to inform the Department Chairperson of a pregnancy. If a student chooses not to do so, no accommodations can be made regarding the student's internship assignment or program of study. Students who choose to disclose their pregnancy should contact the Department Chair.

Business Management – Project Management Track Major Courses (42/43 Credits)

LOG 191	Basics of Supply Chain Management or ADT 223	3
ADT 223	Codes and Ordinances	3
LOG 195	Production and Inventory Control or ADT 220	3
ADT 220	Building Information and Modeling/Lab	4
LOG 291	Total Quality Management	3
ACC 101	Accounting I	3
BSL 201	Business Law	3
BUS 101	Introduction to Business	3
BUS 110	Business Research and Reporting	3
BUS 201	Project Management	3
BUS 210	Sales Negotiation and Customer Relationship	3
BUS 220	Advanced Project Management	3
CPT 210	Advanced Microcomputers	3
ECO 211	Introduction to Macroeconomics	3
MNG 284	Management and Supervision	3

General Education Courses (21 Credits)

CPT 101	Microcomputer I	3
ECO 111	Introduction to Microeconomics	3
ENG 101	English Composition I	3
ENG 212	Public Speaking	3
MAT 101	College Algebra I and Trigonometry	3
MAT 121	Introduction to Statistics	3
MNG 185	Principles of Management	3
PSY 105	Industrial Organizational Psychology or SOC 101	3
SOC 101	Introduction to Sociology	3

Other requirements

SS 101	Student Success Seminar	1
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Minimum Credits to Graduate 64

The sequence of classes on the following page addresses students starting the program in the fall. Students admitted into and beginning their coursework in the spring semester should consult with an Enrollment Specialist and/or the Program Director for further information.

Business Management – Project Management Track
Associate in Applied Science (AAS)

Semester Program Outline		Credits
Semester 1		
BUS 101	Introduction to Business	3
CPT 101	Microcomputer I	3
ECO 111	Introduction to Microeconomics	3
ENG 101	English Composition I	3
MAT 101	College Algebra I and Trigonometry	3
SS 101	Student Success Seminar	1
		16
Semester 2		
ADT 223	Codes and Ordinances or LOG 191	3
LOG 191	Basics of Supply Chain Management	3
CPT 210	Advanced Microcomputers	3
ECO 211	Introduction to Macroeconomics	3
ENG 212	Public Speaking	3
MAT 121	Introduction to Statistics	3
		15
First Year Totals		31
Semester 3		
ACC 101	Accounting I	3
ADT 220	Building Information and Modeling or LOG 195	4
LOG 195	Production and Inventory Control	3
BUS 201	Project Management	3
BUS 210	Sales Negotiation and Customer Relationship	3
MNG 185	Principles of Management	3
PSY 105	Industrial and Organizational Psychology or SOC 101	3
SOC 101	Introduction to Sociology	3
		18/19
Semester 4		
BUS 110	Business Research and Reporting	3
BSL 201	Business Law	3
BUS 220	Advanced Project Management	3
LOG 291	Total Quality Management	3
MNG 284	Management and Supervision	3
		15
Second Year Totals		33/34
Program Totals		64/65
Minimum Credits to Graduate		64

Carpentry & Cabinetmaking Technology (AAS)

Program Objective

The Carpentry & Cabinetmaking Technology program prepares students as entry-level trades people in the layout, estimation, and construction of residential construction including the installation of trim, furniture, stairs, and cabinets. The skill set would also include weatherization installers and technicians and conservation retrofitters. Leadership and management skills are stressed. Students work with industry standard tools and equipment such as table saws, jointers, power tools, hand tools, pneumatic nailers, and laser levels.

Career Opportunities

Graduates work as rough and finish carpenters, cabinetmakers, mill workers, building product representatives, and custom woodworkers.

Typical employers in the carpentry and cabinetmaking career field are residential, commercial, and industrial construction companies; remodeling contractors; cabinet and showcase manufacturers; mill-work companies and lumber yards; wholesale and retail building product suppliers; modular home manufacturers; large institutional, business, and industrial complexes; and architectural engineering firms.

Program Learning Goals:

Goal 1: The carpentry and cabinet making program will prepare the student for entry level employment in a variety of fields of construction.

Student Learning Outcomes – Students will:

- Identify different construction materials
- Select and use appropriate power tools for specific project
- Produce and interpret cabinet shop drawings

Goal 2: The program will cover residential construction from the “ground to the clouds” and does so with an emphasis on safety first.

Student Learning Outcomes – Students will:

- Demonstrate the ability to hook up a harness
- Observe job site, shop safety and tool safety practices

Goal 3: The student will examine the pre-planning phases of construction through the sale of the structure and apply sound customer relation practices.

Student Learning Outcomes – Students will:

- Accurately provide residential estimates
- Propose and interpret appropriate plans based on building site layouts

Pregnancy Policy

It is not required to tell the instructor if you are pregnant but it is highly recommended because of the lifting and other requirements of the program that may jeopardize the health of the mother and fetus.

Carpentry and Cabinetmaking Technology Major Courses (40 Credits)

CCM 120	Woodworking Hand and Portable Tools & Materials/Lab	3
CCM 121	Woodworking Tools and Machines/Lab	3
CCM 122	Kitchen & Bath Design Standards	1
CCM 123	Mathematics for Carpenters	1
CCM 124	Introduction to Print Reading and Interpretation	1
CCM 125	Cabinet Shop Drawing Fundamentals	1
CCM 126	Interior Finishes/Lab	3
CCM 127	Cabinet and Component Construction/Lab	3
CCM 128	Exterior Finishes/Lab	3
CCM 220	Residential Construction Prints	1
CCM 221	Site Layout & Foundations/Lab	3
CCM 222	Stairs/Lab	3
CCM 223	Floor/Wall Framing Principles/Lab	3
CCM 224	Roof Framing/Lab	3
CCM 225	Advanced Roof Framing/Lab	3
CCM 226	Construction Estimating	3
CCM 227	Commercial Construction Prints	1
CCM 228	Construction Safety	1

General Education (20 Credits)

BUS 101	Introduction to Business	3
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
ENG 212	Public Speaking	3
MAT 101	College Algebra I and Trigonometry	3
MAT 110	Trigonometry	3
General Education Elective (2/3 Credits)		2/3

Other requirements

SS 101	Student Success Seminar	1
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Minimum Credits to Graduate **61**

The sequence of classes on the following page addresses students starting the program in the fall. Students admitted into and beginning their coursework in the spring semester should consult with an Enrollment Specialist and/or the Program Director for further information.

Carpentry & Cabinetmaking Technology
Associate in Applied Science (AAS)
Semester Program Outline

		Credits
Semester 1		
CCM 120	Woodworking Hand and Portable Tools & Materials/Lab	3
CCM 121	Woodworking Tools and Machines/Lab	3
CCM 122	Kitchen & Bath Design Standards	1
CCM 123	Mathematics for Carpenters	1
CCM 124	Introduction to Print Reading and Interpretation	1
CPT 101	Microcomputer I	3
MAT 101	College Algebra I and Trigonometry	3
SS 101	Student Success Seminar	1
		16
Semester 2		
CCM 125	Cabinet Shop Drawing Fundamentals	1
CCM 126	Interior Finishes/Lab	3
CCM 127	Cabinet and Component Construction/Lab	3
CCM 128	Exterior Finishes/Lab	3
BUS 101	Introduction to Business	3
ENG 101	English Composition I	3
		16
First Year Totals		32
Semester 3		
CCM 220	Residential Construction Prints	1
CCM 221	Site Layout & Foundations/Lab	3
CCM 223	Floor/Wall Framing Principles/Lab	3
CCM 224	Roof Framing/Lab	3
MAT 110	Trigonometry	3
	General Education Elective	3
		15/16
Semester 4		
CCM 222	Stairs/Lab	3
CCM 225	Advanced Roof Framing/Lab	3
CCM 226	Construction Estimating	3
CCM 227	Commercial Construction Prints	1
CCM 228	Construction Safety	1
ENG 212	Public Speaking	3
		14
Second Year Totals		29/30
Program Totals		61/62
Minimum Credits to Graduate		61

Computer Information Technology (AS)

Program Objective

The Computer Information Technology Program prepares students as entry-level technicians for the maintenance, repair, and troubleshooting of the hardware and software used in today's local and wide area computer networking and information systems.

Career Opportunities

Typical employers are any business or industry using information technology today. Some examples of these are banks, hospitals, educational institutions, government facilities, mail order facilities, retail chains, school districts, and manufacturing facilities. Students work with current industry standard computers, and computer networks.

Program Learning Goals:

Goal 1: Graduates will possess the appropriate skills needed for entering the Computer Information Technology field.

Student Learning Outcomes – Students will:

- Assemble, performance test, troubleshoot, repair, maintain and secure personal computers and servers.
- Design, install, performance test, troubleshoot, repair and maintain Local and Wide area networks.

Goal 2: Graduates will learn the importance of good communications skills with all areas of a project.

Student Learning Outcomes – Students will:

- Interpret measures used to resolve a computer related problem and translate them into Layman's terms for the service report.
- Interpret inter-team communications in order to help build a customer network.
- Organize and manage team meetings in order to develop an IP address design for new networks.

Goal 3: Graduates will develop critical thinking skills for troubleshooting various hardware and software issues.

Student Learning Outcomes – Students will:

- Recognize the importance of safe work habits and conditions
- Interpret customer needs and create a network based on those needs
- Investigate operating system malfunctions, recognize the cause, and develop a plan to resolve the malfunction.

Pregnancy Policy

It is not required to tell the instructor if you are pregnant but it is highly recommended because of the lifting and other requirements of the program that may jeopardize the health of the mother and fetus. Please consult with your instructor on the best way to approach your individual condition.

Computer Information Technology Major Courses (41/42 Credits)

BUS 201	Project Management	3
CIT 160	Computer Hardware and Operating Systems/Lab	4
CIT 163	Network Architectures, Principles, and Protocols/Lab	4
CIT 164	TCP/IP Network Design Configuration, Maintenance/Lab	4
CIT 166	Linux Networking Service and Support/Lab	4
CIT 175	Information System Security Design, Administration/Lab	3
CIT 261	LAN/WAN Design and Maintenance Principles/Lab	4
CIT 270	Web Programming, Client Side Scripting/Lab	3
CIT 272	Server and Network Operating System Principles/Lab	3
CIT 273	Advanced Network Operating System Principles/Lab	3
CIT 266	Internetworking Applications /Lab	4
	or CIT 267 or CIT 268 or CIT 271	
CIT 267	Internship	4
CIT 268	Co-op Educational Experience	4
CIT 271	Web Programming, Server Side Scripting/Lab	3
PRG 101	Programming for the Enterprise	3

General Education (21 Credits)

BUS 101	Introduction to Business	3
CPT 101	Microcomputer I	3
DAT 201	Database: Principles & Applications	3
ENG 101	English Composition I	3
ENG 212	Public Speaking	3
MAT 101	College Algebra I and Trigonometry	3
MAT 201	College Algebra II and Trigonometry	3

Other requirements

SS 101	Student Success Seminar	1
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Minimum Credits to Graduate 63

The sequence of classes on the following page addresses students starting the program in the fall. Students admitted into and beginning their coursework in the spring semester should consult with an Enrollment Specialist and/or the Program Director for further information.

Computer Information Technology
Associate in Science (AS)
Semester Program Outline

		Credits
Semester 1		
CIT 160	Computer Hardware and Operating Systems/Lab	4
CIT 163	Network Architectures, Principles, and Protocols/Lab	4
PRG 101	Programming for the Enterprise	3
BUS 101	Introduction to Business	3
ENG 101	English Composition I	3
SS 101	Student Success Seminar	1
		18
Semester 2		
CIT 164	TCP/IP Network Design Configuration and Maintenance/Lab	4
CIT 166	Linux Networking Service and Support/Lab	4
CIT 175	Information System Security Design and Administration/Lab	3
CPT 101	Microcomputer I	3
MAT 101	College Algebra I and Trigonometry	3
		17
First Year Totals		35
Semester 3		
CIT 261	LAN/WAN Design and Maintenance Principles/Lab	4
CIT 272	Server and Network Operating System Principles/Lab	3
BUS 201	Project Management	3
DAT 201	Database: Principles & Applications	3
MAT 201	College Algebra II and Trigonometry	3
		16
Semester 4		
CIT 270	Web Programming, Client Side Scripting/Lab	3
CIT 273	Advanced Network Operating System Principles/Lab	3
CIT 266	Internetworking Applications/Lab	4
	or CIT 267 or CIT 268 or CIT 271	
CIT 267	Internship	
CIT 268	Co-op Educational Experience	
CIT 271	Web Programming, Server Side Scripting/Lab	3
ENG 212	Public Speaking	3
		12/13
Second Year Totals		28/29
Program Totals		63/64
Minimum Credits to Graduate		63

Diesel Truck Technology (AAS)

Program Objective

The Diesel Truck Technology program prepares students as entry-level technicians with the latest information on diagnosis, repair procedures, preventive maintenance, and necessary safety applications in diesel technology. The course prepares students to take the voluntary mechanic certification test (ASE) in heavy-duty trucks. Graduates work as tune-up, brakes, transmission and refrigeration technicians; diesel truck repair and fleet maintenance technicians; service writing technicians; and sales and service representatives.

Career Opportunities

Typical employers of diesel truck technicians are truck, farm, and earth-moving equipment dealerships; trucking, power generation, and construction companies; truck service centers; engine repair/machine shops; truck equipment distributors; independent service garages; automotive parts manufacturers; sales representatives; and insurance companies.

Program Learning Goals

Goal 1: Graduates will possess the appropriate skills and safety awareness that are needed for decision-making and critical thinking for entry into the Diesel Truck Technology field.

Student Learning Outcomes - Students will:

- Understand the use of proper safety equipment, for both themselves and shop practices.
- Visualize situations to predict any concerns before attempting them.
- Multitask and follow safety precautions while displaying well thought-out time management.

Goal 2: Graduates will understand the importance of professional behavior and life-long learning within the Diesel Truck Industry.

Student Learning Outcomes - Graduates will:

- Communicate with managers, supervisors, or company owners in a professional and technical manner.
- Seek opportunities for continued training after graduation and keep up with current technology.

Goal 3: Graduates will meet the needs of the Diesel Truck Technology field. Graduates will be provided the skills that will provide them the opportunities in various areas of the diesel profession.

Student Learning Outcomes - Students will:

- Be able to troubleshoot heavy duty vehicle brake systems for safety concerns and faults.
- Diagnose a diesel engine and repair a variety of different types of engines.

Senior Testing Fees

In addition to tuition, Diesel Truck Technology Students will have fees associated with their major reflected yearly per the Enrollment Agreement. These fees cover State and Federal Licensing Requirements. These are all mandatory to complete the program. State inspection fees can be waived for those students who have achieved this credential and/or out-of-state students not needing such a credential.

Pregnancy Policy

It is not required to tell the instructor if you are pregnant but it is highly recommended because of the lifting and other requirements of the program that may jeopardize the health of the mother and fetus.

Diesel Truck Technology Major Courses (42 Credits)

VMR 141	Introduction to Vehicle Maintenance & Repair Tech./Lab	3
VMR 142	Brake Systems/Lab	3
VMR 143	Steering and Suspension Systems/Lab	3
VMR 144	Electrical & Electronic Systems/Lab	3
DTT 146	Diesel Engine Overhaul/Lab	4
DTT 155	Diesel Fuel Injection Systems/Lab	3
DTT 241	Diesel Engine Performance and Tune-up Procedures/Lab	4
DTT 252	Manual Transmission Overhaul/Lab	3
DTT 253	Differentials and Drive Line/Lab	3
DTT 254	Automatic Transmission Diagnostics, Basic Hydraulics/Lab	3
VMR 245	HVAC Vehicle Systems/Lab	3
DTT 246	Applied Diesel Truck Principles and Applications/Lab or DTT 247 or DTT 248	4
DTT 247	Internship	4
DTT 248	Co-op Educational Experience	4
IET 101	Introduction to Automotive and Diesel Electronics	3
General Education (20 Credits)		
BUS 101	Introduction to Business	3
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
ENG 212	Public Speaking	3
MAT 101	College Algebra I and Trigonometry	3
General Education Electives (5/6 Credits)		5/6
Other requirements		
SS 101	Student Success Seminar	1
Minimum Credits to Graduate		63



This course prepares students with skills labeled by the Commonwealth of Pennsylvania as those used in traditional or evolving green occupations.

The sequence of classes on the following page addresses students starting the program in the fall. Students admitted into and beginning their coursework in the spring semester should consult with an Enrollment Specialist and/or the Program Director for further information.

Diesel Truck Technology
Associate in Applied Science (AAS)
Semester Program Outline

		Credits
Semester 1		
VMR 141	Introduction to Vehicle Maintenance & Repair Tech./Lab	3
VMR 142	Brake Systems/Lab	3
VMR 143	Steering and Suspension Systems/Lab	3
IET 101	Introduction to Automotive & Diesel Electronics	3
CPT 101	Microcomputer I	3
SS 101	Student Success Seminar	1
		16
Semester 2		
VMR 144	Electrical & Electronic Systems/Lab	3
DTT 155	Diesel Fuel Injection Systems/Lab	3
DTT 146	Diesel Engine Overhaul/Lab	4
ENG 101	English Composition I	3
MAT 101	College Algebra I and Trigonometry	3
		16
First Year Totals		32
Semester 3		
DTT 241	Diesel Engine Performance and Tune-up Procedures/Lab	4
DTT 252	Manual Transmission Overhaul/Lab	3
DTT 253	Differentials and Drive Line/Lab	3
BUS 101	Introduction to Business	3
ENG 212	Public Speaking	3
	General Education Elective	3
		19
Semester 4		
DTT 254	Automatic Transmission Diagnostics, Basic Hydraulics/Lab	3
VMR 245	HVAC Vehicle Systems/Lab	3
DTT 246	Applied Diesel Truck Principles and Applications/Lab	4
	or DTT 247 or DTT 248	
DTT 247	Internship	4
DTT 248	Co-op Educational Experience	4
	General Education Elective	2/3
		12/13
Second Year Totals		31/32
Program Totals		63/64
Minimum Credits to Graduate		63

Electrical Construction & Maintenance Technology (AAS)

Program Objective:

The Electrical Construction and Maintenance Technology program prepares students as entry-level technicians for the operation, inspection, installation, calibration, repair, maintenance and safety of residential and commercial electrical equipment.

Career Opportunities:

Graduates work as residential and commercial electricians, industrial engineering technicians in production environments. Graduates will also be prepared as quality assurance technicians, linemen or technicians for the power industry. Typical employers in the electrical field are telecommunications companies, utilities, Union and Non-union electrical companies and manufacturing companies.

Program Learning Goals:

Goal 1: The student will be prepared as an entry-level technician in the electrical construction and maintenance industry

Student Learning Outcomes – Students will:

- Install cables and raceways
- Read and understand electrical prints
- Be proficient in meter usage

Goal 2: Graduates will demonstrate safe electrical practices and understand how important they are in the electrical environment.

Student Learning Outcomes – Students will:

- Properly demonstrate lock out / tag out practices
- Perform tasks in accordance with OSHA guidelines
- Demonstrate proper usage of personal protective equipment (PPE)

Goal 3: Graduates will acquire a foundation of education and skills for career advancement and lifelong learning.

Student Learning Outcomes – Students will:

- Perform in a professional manner
- Understand the National Electrical Code (NEC)
- Demonstrate proper installation and worksite housekeeping

Pregnancy Policy

It is not required to tell the instructor if you are pregnant but it is highly recommended because of the lifting and other requirements of the program that may jeopardize the health of the mother and fetus. Please consult with your instructor on the best way to approach your individual condition.

Electrical Construction & Maintenance Technology Major Courses (41 Credits)

ECM 121	Fundamentals of Electricity/Lab	3
ECM 122	Introduction to Residential Wiring/Lab	3
ECM 123	Principles & Applied Practices of Residential Wiring/Lab	3
ECM 124	Advanced Residential Circuit Installation/Lab	3
ECM 125	Service Installation & Troubleshooting/Lab	3
ECM 126	Commercial Wiring/Lab	3
ECM 221	Industrial Motor Control/Lab	3
ECM 222	Advanced Motor Control Circuits/Lab	3
ECM 224	Industrial Maintenance I/Lab	3
ECM 225	Industrial Maintenance II/Lab	3
ECM 206	Applied Practice and Special Topics/Lab or ECM 207 or ECM 208	4
ECM 207	Internship	4
ECM 208	Co-op Educational Experience	4
AMT 221	Programmable Logic Controllers/Lab	4
CCM 220	Residential Construction Prints	1
CCM 227	Commercial Construction Prints	1
CCM 228	Construction Safety	1
General Education (20 Credits)		
BUS 101	Introduction to Business	3
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
ENG 211	Communication Theory	3
or ENG 212	Public Speaking	
MAT 101	College Algebra I and Trigonometry	3
MAT 201	College Algebra II and Trigonometry	3
General Education Elective (2/3 Credits)		2/3
Other requirements		
SS 101	Student Success Seminar	1
Minimum Credits to Graduate		62

The sequence of classes on the following page addresses students starting the program in the fall. Students admitted into and beginning their coursework in the spring semester should consult with an Enrollment Specialist and/or the Program Director for further information.

Electrical Construction & Maintenance Technology

Associate in Applied Science (AAS)

Semester Program Outline

Credits

Semester 1

ECM 121	Fundamentals of Electricity/Lab	3
ECM 122	Introduction to Residential Wiring/Lab	3
ECM 126	Commercial Wiring/Lab	3
CCM 220	Residential Construction Prints	1
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
SS 101	Student Success Seminar	1

17

Semester 2

ECM 123	Principles & Applied Practices of Residential Wiring/Lab	3
ECM 124	Advanced Residential Circuit Installation/Lab	3
ECM 125	Service Installation & Troubleshooting/Lab	3
CCM 227	Commercial Construction Prints	1
BUS 101	Introduction to Business	3
MAT 101	College Algebra I and Trigonometry	3

16

First Year Totals

33

Semester 3

AMT 221	Programmable Logic Controllers/Lab	4
ECM 221	Industrial Motor Control/Lab	3
ECM 224	Industrial Maintenance I/Lab	3
ENG 211	Communication Theory	3
or ENG 212	Public Speaking	
MAT 201	College Algebra II and Trigonometry	3

16

Semester 4

ECM 222	Advanced Motor Control Circuits/Lab	3
ECM 225	Industrial Maintenance II/Lab	3
CCM 228	Construction Safety	1
ECM 206	Applied Practice and Special Topics/Lab	4
	or ECM 207 or ECM 208	
ECM 207	Internship	4
ECM 208	Co-op Educational Experience	4
	General Education Elective	2/3

13/14

Second Year Totals

29/30

Program Totals

62/63

Minimum Credits to Graduate

62

Electronic Engineering Technology (AAS)

Program Objective

The Electronic Engineering Technology program prepares graduates as entry-level technicians. Students will become proficient in the theoretical and practical applications associated with electronic devices, instrumentation controls, and systems.

Career Opportunities

Graduates work as technicians and sales representatives in the field of electronic instrumentation and computer repair. Typical employers in the electronic career are machine, tool, and instrumentation manufacturers; electronic service companies; communication industries; electronic media; and electronic sales.

Program Learning Goals:

Goal 1: Graduates will be able to troubleshoot electronic circuits and systems using theoretical principles and measured values to resolve operational issues.

Student Learning Outcomes – Students will:

- Demonstrate competence with circuit identification
- Demonstrate competence in using various pieces of test equipment to gather information about a circuit or systems operation
- Employ corrective actions to make repair to systems under test

Goal 2: Graduates will demonstrate the ability to communicate with a customer, team member or supervisor in a professional manner to determine the nature of a problem or to explain repairs.

Student Learning Outcomes – Students will:

- Explain the defect found in circuits or systems and the solution to rectify the problem
- Produce written reports on work performed outlining work performed

Goal 3: Graduates will be able to use hand tools and test equipment in a safe manner.

Student Learning Outcomes – Students will:

- Demonstrate the safe use of a multimeter while making measurements in live circuits
- Demonstrate the safe use of oscilloscopes and other lab equipment to make measurements or apply signals.

Pregnancy Policy

It is the student's choice whether or not to inform the Department Chairperson of a pregnancy. If a student chooses not to do so, no accommodations can be made regarding the student's internship assignment or program of study. Students who choose to disclose their pregnancy should contact the Department Chair.

Electronic Engineering Technology Major Courses (43 Credits)

EET 111	DC Electricity and Instrumentation/Lab	3
EET 112	Alternating Current and Passive Devices/Lab	3
EET 113	Introduction to Semiconductors/Lab	3
EET 114	Integrated Circuits and Thyristors/Lab	3
EET 115	Digital Electronics I/Lab	3
EET 106	Digital Electronics II/Lab	4
EET 211	Communication Electronics/Lab	3
EET 213	Industrial Electronics/Lab	3
EET 206	Applied Electronics Principles & Applications/Lab or EET 207 or EET 208	4
EET 207	Internship	4
EET 208	Co-op Educational Experience	4
AMT 221	Programmable Logic Controllers/Lab	4
AMT 223	Automation & Robotics/Lab	3
BRT 105	Blueprint/Schematic Reading	3
CIT 163	Network Architectures, Principles, and Protocols/Lab	4
General Education (20 Credits)		
BUS 101	Introduction to Business	3
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
ENG 212	Public Speaking	3
MAT 101	College Algebra I and Trigonometry	3
MAT 201	College Algebra II and Trigonometry	3
General Education Elective (2/3 Credits)		2/3
Other requirements		
SS 101	Student Success Seminar	1
Minimum Credits to Graduate		64



This course prepares students with skills labeled by the Commonwealth of Pennsylvania as those used in traditional or evolving green occupations.

The sequence of classes on the following page addresses students starting the program in the fall. Students admitted into and beginning their coursework in the spring semester should consult with an Enrollment Specialist and/or the Program Director for further information.

Electronic Engineering Technology
Associate in Applied Science (AAS)
Semester Program Outline

		Credits
Semester 1		
EET 111	DC Electricity and Instrumentation/Lab	3
EET 112	Alternating Current and Passive Devices/Lab	3
EET 115	Digital Electronics I/Lab	3
CPT 101	Microcomputer I	3
MAT 101	College Algebra I and Trigonometry	3
SS 101	Student Success Seminar	1
		16
Semester 2		
EET 106	Digital Electronics II/Lab	4
EET 113	Introduction to Semiconductors/Lab	3
EET 114	Integrated Circuits and Thyristors/Lab	3
BRT 105	Blueprint/Schematic Reading	3
ENG 101	English Composition I	3
	General Education Elective	2/3
		18/19
First Year Totals		34/35
Semester 3		
AMT 221	Programmable Logic Controllers/Lab	4
EET 211	Communication Electronics/Lab	3
EET 213	Industrial Electronics/Lab	3
ENG 212	Public Speaking	3
MAT 201	College Algebra II and Trigonometry	3
		16
Semester 4		
AMT 223	Automation & Robotics/Lab	3
BUS 101	Introduction to Business	3
CIT 163	Network Architectures, Principles, and Protocols/Lab	4
EET 206	Applied Electronics Principles & Applications/Lab	4
	or EET 207 or EET 208	
EET 207	Internship	4
EET 208	Co-op Educational Experience	4
		14
Second Year Totals		30
Program Totals		64/65
Minimum Credits to Graduate		64

Heating Ventilation & Air Conditioning Technology (AAS)

Program Objective

The Heating Ventilation and Air Conditioning program is to provide students with the skills needed for entry-level positions in the installing, repairing and troubleshooting various heating and cooling equipment. Students will work with industrial standard tools associated with equipment such as oil and gas furnaces, refrigeration units, and air conditioning equipment.

Career Opportunities

Graduates can work as HVAC Installers, Controls Technicians, Service Technicians, Maintenance Mechanics and Plumbers.

Typical employers in the HVAC trade career include custom job shops; research laboratories; wholesale and retail sales.

Program Learning Goals:

Goal 1: Graduates will possess the skills necessary to obtain an entry-level HVAC Technician position.

Student Learning Outcomes – Students will:

- Assist in the installations of Heating, Air Conditioning and Refrigeration equipment.
- Pipe a hydronic heating system
- Perform preventive maintenance on heating and air conditioning systems

Goal 2: Graduates will have an understanding of safe HVAC practices and how important they are in the HVAC environment.

Student Learning Outcomes – Students will:

- Identify site hazards
- Know when to use proper PPE (Personal Protective Equipment).
- Prepare the work area, thereby creating a safe working environment.

Goal 3: Graduates will understand the importance of professional behavior and life-long learning, and will meet the challenges of continued technological growth within the field.

Student Learning Outcomes – Students will:

- Conduct themselves as professionals at all times
- Convey a professional appearance through proper grooming and appropriate attire.
- Keep up with technology through training during their careers.

Senior Testing Fee

A onetime EPA certification fee will be charged prior to the start of their senior year.

Pregnancy Policy

It is not required to tell the instructor if you are pregnant but it is highly recommended because of the lifting and other requirements of the program that may jeopardize the health of the mother and fetus.

Heating Ventilation & Air Conditioning Technology

Major Courses (41 Credits)

HAC 151	Introduction to Refrigeration/Lab	4
HAC 152	HVAC/R Electricity I/Lab	3
HAC 153	Pipefitting/Lab	3
HAC 154	Print Reading and Codes for HVAC/Lab	3
HAC 155	HVAC/R Electricity II/Lab	3
HAC 156	Air Conditioning Systems/Lab	4
HAC 222	HVAC Controls I/Lab	3
HAC 223	Hydronic Heating Systems/Lab	3
HAC 225	HVAC Controls II/Lab	3
HAC 251	Heating System Design & Installation/Lab	4
HAC 254	Refrigeration Applications Commercial Systems/Lab	4
HAC 256	Applied HVAC Principles and Applications/Lab	4
	or HAC 257 or HAC 258	
HAC 257	Internship	4
HAC 258	Co-op Educational Experience	4
General Education (21 Credits)		
BUS 101	Introduction to Business	3
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
ENG 211	Communication Theory	3
MAT 101	College Algebra I and Trigonometry	3
MAT 201	College Algebra II and Trigonometry	3
PHY 101	Introductory Physics	3
Other requirements		
SS 101	Student Success Seminar	1

Minimum Credits to Graduate 63

The sequence of classes on the following page addresses students starting the program in the fall. Students admitted into and beginning their coursework in the spring semester should consult with an Enrollment Specialist and/or the Program Director for further information.

Heating Ventilation & Air Conditioning Technology
Associate in Applied Science (A.A.S.)
Semester Program Outline

		Credits
Semester 1		
HAC 151	Introduction to Refrigeration/Lab	4
HAC 152	HVAC/R Electricity I/Lab	3
HAC 153	Pipefitting/Lab	3
ENG 101	English Composition I	3
MAT 101	College Algebra I and Trigonometry	3
SS 101	Student Success Seminar	1
		17
Semester 2		
HAC 154	Print Reading and Codes for HVAC/Lab	3
HAC 155	HVAC/R Electricity II/Lab	3
HAC 156	Air Conditioning Systems/Lab	4
CPT 101	Microcomputer I	3
PHY 101	Introductory Physics	3
		16
First Year Totals		33
Semester 3		
HAC 222	HVAC Controls I/Lab	3
HAC 223	Hydronic Heating Systems/Lab	3
HAC 251	Heating Systems Design & Installation/Lab	4
BUS 101	Introduction to Business	3
MAT 201	College Algebra II and Trigonometry	3
		16
Semester 4		
HAC 225	HVAC Controls II/Lab	3
HAC 254	Refrigeration Applications Commercial Systems/Lab	4
HAC 256	Applied HVAC Principles and Applications/Lab	4
	or HAC 257 or HAC 258	
HAC 257	Internship	
HAC 258	Co-op Educational Experience	
ENG 211	Communication Theory	3
		14
Second Year Totals		30
Program Totals		63
Minimum Credits to Graduate		63

Physical Therapist Assistant (AS)

Program Objective

The Physical Therapist Assistant program prepares students for entry-level positions in a variety of clinical settings. Graduates will be prepared to take the National Physical Therapy Exam for Physical Therapist Assistants.

Career Opportunities

Physical therapy is a very rewarding and diverse profession. Practicing physical therapist assistants have the option to work in a variety of settings, including: hospitals, inpatient and outpatient rehabilitation settings, skilled nursing facilities, private practices, home health, and schools. PTAs can also teach in physical therapist assistant programs or if they choose, can further their education in a variety of related fields.

Program Mission Statement

The mission of the Physical Therapist Assistant Program at Johnson College is to prepare students to be competent and caring entry-level physical therapist assistants who work under the direction and supervision of a physical therapist in a variety of settings. Students will be committed to developing and continuing professional competence, demonstrating lifelong learning, and adhering to the behavioral expectations outlined in the APTA Guide for Conduct and Standards of Ethical Conduct for the PTA.

What do Physical Therapist Assistants do?

Physical therapy plays a vital role in helping individuals achieve their optimal level of mobility and independence. Physical therapist assistants work under the direction and supervision of licensed physical therapists and work directly with patients to help improve quality of life. Physical therapist assistants must be well educated and personable.

Programmatic Accreditation

The Physical Therapist Assistant Program at Johnson College is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE)
1111 North Fairfax Street, Alexandria, Virginia 22314; telephone: 703-706-3245;
email: accreditation@apta.org; website: <http://www.capteonline.org>.

Program Goals

Goal 1: To prepare graduates to meet the professional and licensure requirements necessary to function as entry-level PTA's under the direction and supervision of a physical therapist in a variety of clinical settings.

Student Learning Outcomes – Students will:

- Students/graduates will exhibit conduct that reflects practice standards that are legal, ethical, and safe and that reflects a commitment to meet the expectations of members of society and members of the profession of physical therapy.
- Students/graduates will demonstrate competence implementing interventions identified in the plan of care under the direction and supervision of the physical therapist.
- Students/graduates will demonstrate competency performing components of data collection skills under the direction and supervision of the physical therapist.
- Students/graduates will recognize when interventions should be modified or not provided due to changes in the patient's status or due to violations in practice guidelines and report this to the supervising physical therapist.
- Students/graduates will communicate effectively with other health care providers and with patients, family members, and caregivers in order to achieve patient outcomes based on the physical therapy plan of care.
- Students/graduates will implement risk management strategies during all lab and clinical activities to ensure the safety of themselves and others.
- Students/graduates will complete thorough, accurate, logical, concise, timely, and legible documentation that meets the requirements of the facility.
- Graduates will pass the NPTAE at a rate consistent with CAPTE requirements within one year of graduation.
- Graduates who seek employment will be employed in the field within one year of graduation.

Goal 2: To ensure that educators of the program, both didactic and clinical provide instruction and guidance that meets the needs of the students and the program.

Outcomes:

- Faculty will maintain current licensure in PA.
- Faculty will participate in continuing professional competence related to teaching responsibilities.

- Faculty will utilize effective instructional methods during didactic, laboratory, and clinical courses.

Goal 3: To provide students with a curriculum and resources that are current and in compliance with standards set forth by the Commission on Accreditation in Physical Therapy Education (CAPTE), by the American Physical Therapy Association (APTA), by the PA Physical Therapy state practice act, and by the institution.

Outcomes:

- The curriculum will be reviewed annually by the Program Director, core faculty, and the Program Advisory Committee to ensure it is aligned with current requirements and practice trends.
- The program resources will be reviewed annually by the Program Director, core faculty, and the Program Advisory Committee to ensure adequacy to meet the needs of the program.

Physical Exam & Immunizations Responsibilities

In addition to tuition and program fees, students are responsible for the cost of physical exams and immunizations. Students are also required to join the American Physical Therapy Association as student PTA members.

Special Admissions Requirements

Admittance to the Physical Therapist Assistant Program at Johnson College is based on a selective admission process that has been developed to ensure that students who are admitted to the Johnson College PTA Program are prepared to succeed in the program and enter the work force as competent entry-level physical therapist assistants. Students are admitted based on their merit without being discriminated against on the basis of race, religion, color, sex, age, national origin, non-job related disability, sexual orientation, or veteran status. Current enrollment is limited to 12 new students per year based on the number of applicants who meet the admission criteria and qualifications.

The procedure for applicants who desire to seek acceptance into the PTA program is as follows:

1. Applicants must contact the Johnson College admissions staff to initiate the application process, which includes submitting an application
2. Students must meet the following minimum requirements:
 - a. SAT scores of 900 (combined math and verbal with not less than 450 on either section) or above or ACT scores 18 or above
 - b. Accuplacer Scores of 70 on each section
 - c. GPA 2.5 or higher*
 - d. 1 year of Algebra with a “C” or higher*
 - e. 2 years of English with a “C” or higher*
 - f. 1 year of Biology with a “C” or higher*

- g. Recommended: 1 year of an additional life or physical science with a “C” or higher*
- h. Observation/Volunteer/Work at a Physical Therapy Clinic for a minimum of 15 hours
- i. PTA Admissions Questionnaire
- j. 2 Recommendations (1 from a Physical therapist or physical therapist assistant)

*(*denotes pre-requisites that can be completed in high school or college; college level courses will be weighted more in the scoring process)*

- 3. Once the applicant has completed all of the above pre-requisites, the admissions representative will send the file to the program director for review.
- 4. An interview will follow if applicant meets the minimum requirements. Students who meet all of the academic requirements (a.- g.) except for one may still be considered for acceptance if the student meets the rubric score requirement listed below.
- 5. The applicant will be scored based on the rubric which can be found on the program website.
- 6. Acceptance will be based on the following scores:
 - **Rubric Score of 19 - 31:** automatic acceptance into the program based on rolling acceptance beginning November 1st of the academic year prior to the anticipated year of matriculation
 - **Rubric Score of 10 - 18:** decision for acceptance will be made after May 1st based on pool of applicants
 - **Rubric Score of < 10:** not accepted

Special Enrollment Requirements

Prior to admission, students must complete 15 hours of observation in a physical therapy clinic with a Physical Therapist Assistant or a Physical Therapist and provide verification and complete the program admissions questionnaire.

Special Fees

In addition to tuition and program fees, students are responsible for the cost of physical exams and immunizations. Students are also required to join the American Physical Therapy Association as student PTA members.

Retention

Students are required to show both didactic and clinical progression each semester in order to progress through the Physical Therapist Assistant Program.

- The student **MUST PASS** each Physical Therapist Assistant didactic course, as well as related courses MTR 100, HAP 101, HAP 101 Lab, HAP 102, and HAP 102 Lab with a grade of at least a C+ (76) or higher.

- In order to successfully pass each PTA course and progress through the program, students must:
 - receive a 76% or higher in each lecture and lab portion of the course
 - receive an overall grade of a 76% or higher
 - achieve a written exam average (written exams + final exam) of 76% or higher
 - complete all skill checklists
 - pass each Practical Exam with a 76% or higher
 - demonstrate appropriate professional behaviors as assessed by the Professional Behavior Assessment Form.

If any of the above criteria are not met, students may Fail the course and will not be able to progress in the PTA program. If students do not obtain a 76 written exam average, but meet all of the other criteria, the students' grade will be based on the written exam average. A student who fails the practical will receive an F in the course.

- The student **MUST PASS** each of the three clinical education courses (CLI 270, CLI 280, and CLI 290).
- The student **MUST PASS** all laboratory practical exams, with a grade of at least a C+ (76%) or better.(Refer to Lab Practical Policy)
- The student **MUST** demonstrate competency for all skills checklists for all PTA classes. (Refer to Skills Check Policy)
- The student **MUST** maintain a GPA each semester of 2.33 or higher.
- The student **MUST** demonstrate appropriate Professional Behaviors

Please refer to the **Physical Therapist Assistant Student Handbook** for further information.

Clinical Education

Clinical education is a significant part of the Physical Therapist Assistant Program. Prior to the clinical education experiences, students must complete criminal background checks, fingerprinting, child abuse clearance, and drug testing. Students must satisfy the clinical requirements for both Johnson College and the clinical sites in order to successfully complete the program.

Pregnancy Policy

It is the student's choice whether or not to disclose information regarding pregnancy. Please follow the guidelines as stated in the Pregnancy Policy of the Physical Therapist Assistant Student Handbook.

Vaccination Policy

Yearly two-step PPD (Tuberculosis) screening is required. Chest x-ray is required for a positive test.

As per the Center for Disease Control Vaccination Recommendations for healthcare personnel, it is recommended that students receive the following vaccines:

- **MMR:** For healthcare personnel (HCP) born in 1957 or later without serologic evidence of immunity or prior vaccination, give 2 doses of MMR, 4 weeks apart.
- **Chicken Pox (Varicella):** For HCP who have no serologic proof of immunity, prior vaccination, or history of varicella disease, give 2 doses of varicella vaccine, 4 weeks apart. History of the disease, proof of the vaccine or laboratory evidence of immunity.
- **Hepatitis B:** 3-dose series (dose #1 now, #2 in 1 month, #3 approximately 5 months after #2). Give IM. Obtain anti-HBs serologic testing 1–2 months after dose #3.
- **Influenza:** 1 dose of influenza vaccine annually. Give inactivated injectable influenza vaccine intramuscularly or live attenuated influenza vaccine (LAIV) intranasally.
- **Tetanus, Diphtheria, Pertussis:** Give a one-time dose of Tdap as soon as feasible to all HCP who have not received Tdap previously. Give Td boosters every 10 years thereafter.
- **Meningococcal:** Give 1 dose to microbiologists who are routinely exposed to isolates of *N. meningitides*.

Physical Therapist Assistant Student Handbook

Physical Therapist Assistant students are responsible for reading and abiding by all policies and procedures in the Physical Therapist Assistant Student Handbook and Clinical Handbook.

Physical Therapist Assistant Major Courses (46 credits)

PTA 103	Introduction to Physical Therapy for the Physical Therapist Assistant	2
PTA 110	Patient Care	3
PTA 112	Physical Therapy Procedures I	2
PTA 115	Principles of Therapeutic Exercise	2
PTA 201	Pathophysiology	3
PTA 210	Applied Kinesiology	4
PTA 212	Physical Therapy Procedures II	3
PTA 215	Interventions in Musculoskeletal	4
PTA 216	Interventions in Neurology	4
PTA 217	Topics in Rehabilitation	4
PTA 220	Career Readiness	1
PTA 250	Professional Exploration	2
CLI 270	Clinical Experience I (40hrs/3wks)	2
CLI 280	Clinical Experience II (40hrs/6wks)	5
CLI 290	Clinical Experience III(40hrs/6wks)	5
Related Courses (9 credits)		
HAP 101	Human Anatomy & Physiology I	3
HAP 101 L	Human Anatomy & Physiology I Lab	1
HAP 102	Human Anatomy & Physiology II	3
HAP 102 L	Human Anatomy & Physiology Lab II	1
MTR 100	Medical Terminology	1
General Education (15 credits)		
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
ENG 212	Public Speaking	3
MAT 121	Introduction to Statistics	3
PSY 101	General Psychology	3
Other requirements		
SS 101	Student Success Seminar	1
Minimum Credits to Graduate		71

**Physical Therapist Assistant
Associate in Science (AS)
Semester Program Outline**

		Credits
Semester 1		
HAP 101	Human Anatomy & Physiology I	3
HAP 101L	Human Anatomy & Physiology I Lab	1
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
MTR 100	Medical Terminology	1
SS 101	Student Success Seminar	1
		12
Semester 2		
HAP 102	Human Anatomy & Physiology II	3
HAP 102L	Human Anatomy & Physiology II Lab	1
ENG 212	Public Speaking	3
MAT 121	Introduction to Statistics	3
PSY 101	General Psychology	3
		13
First Year Totals		25

**Physical Therapist Assistant
Associate in Science (AS)
Semester Program Outline**

		Credits
Semester 3		
PTA 103	Intro. to Physical Therapy for the Physical Therapist Asst.	2
PTA 110	Patient Care	3
PTA 112	Physical Therapy Procedures I	2
PTA 115	Principles of Therapeutic Exercise	2
PTA 201	Pathophysiology	3
PTA 210	Applied Kinesiology	4
		16
Semester 4		
CLI 270	Clinical Experience I (integrated 1 day/week for 15 weeks)	2
PTA 212	Physical Therapy Procedures II	3
PTA 215	Interventions in Musculoskeletal	4
PTA 216	Interventions in Neurology	4
PTA 217	Topics in Rehabilitation	4
PTA 250	Professional Exploration	2
		19
Semester 5		
CLI 280	Clinical Experience II (40hrs/6wks)	5
CLI 290	Clinical Experience III (40hrs/6wks)	5
PTA 220	Career Readiness	1
		11
Second Year Totals		46
Program Totals		71
Minimum Credits to Graduate		71

Radiologic Technology (AS)

Program Objective

The Radiologic Technology program prepares students for entry-level positions in a hospital or outpatient clinical setting. Graduates will be prepared to take the national certification for the American Registry of Radiologic Technologists (ARRT) examination to become a registered technologist.

Career Opportunities

Graduates can work as technologists in hospitals, medical service centers, and outpatient imaging centers, or with additional training and education, career advancement into other imaging modalities is possible.

The Radiologic Technology program at Johnson College offers several career and employment post-graduation paths. Upon successfully passing the ARRT national certification examination, students may continue their education in a nine month certificate program in MRI or CT scanning.

Students may also further their education to complete an online Bachelor of Science degree in Applied Health Studies (BAH) through an articulation agreement with Pennsylvania College of Technology.

Program Mission Statement

The mission of the Radiologic Technology Program at Johnson College is to develop competent, professional radiographers whose expertise will meet the community they serve by providing patient-centered care in a professional, compassionate and responsible manner.

Program Vision Statement

The vision of the Radiologic Technology Program is consistent with the vision of Johnson College. The vision of the Radiologic Technology Program is to achieve excellence by the means of the outcome of assessments and continuous improvement. Johnson College will provide the students with the industrial skills and learning opportunities to foster critical thinking and problem solving.

What do Radiologic Technologists do?

The Radiologic Technologist must be well educated in:

- | | | |
|-----------------------|---------------------|----------------------|
| • Anatomy | Patient positioning | Exam techniques |
| • Equipment protocols | Radiation safety | Radiation protection |
| • Basic patient care | | |

The technologist will be responsible for patient assessment and preparation for radiologic procedures and image production. You are an important part of the diagnostic team responsible for producing a quality diagnostic image. The physicians that are specialized in the field of radiology (Radiologists) interpret these images to obtain an accurate diagnosis to rule out disease, injury, and develop a course of treatment.

Programmatic Accreditation

The Radiologic Technology program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT)
20 North Wacker Drive, Suite 2850 Chicago, IL 60606-3182
Phone: (312) 704-5300
E-mail: mail@jrcert.org
Website: www.jrcert.org

Program Learning Goals

Goal 1: Graduates will possess the skills necessary to obtain an entry-level radiologic position.

Student Learning Outcomes - Graduates will:

- Demonstrate competence in positioning skills
- Be able to utilize the knowledge to set appropriate technical factors.
- Practice safe radiation practices.

Goal 2: Graduates will understand the importance of professional behavior and life-long learning.

Student Learning Outcomes - Students/Graduates will:

- Be a responsible member of the healthcare team.
- Display professionalism in the medical environment.
- Demonstrate a good work ethic in the clinical environment.

Goal 3: Graduates will possess the appropriate skills needed for decision making and critical thinking, and make professional advancement within the Radiologic Technology field.

Student Learning Outcomes - Students/Graduates will:

- Partake in personal and professional growth opportunities.
- Assess patient condition and adjust the situation or procedure accordingly.
- Be able to critique images for diagnostic purpose.

Goal 4: Student/Graduates will demonstrate effective communication skills with patients and other medical professionals.

Student Learning Outcomes - Graduates will:

- Demonstrate the necessary oral and written communication.
- Demonstrate oral and written communication with patients and other medical professionals within the clinical setting.

Physical Exam & Immunizations Responsibilities

In addition to tuition and fees, Radiologic Technology students are responsible for the costs of required health exams and immunizations.

Required Courses

Required courses in high school include Algebra I and Algebra II or Geometry, and Biology.

Recommended Courses

Recommended courses include Physics and math courses higher than Algebra II.

Special Admissions Requirements

A minimal Scholastic Aptitude Test (SAT) score of 900 for combined math and verbal or a minimal American College Test (ACT) of 20 is required for admission. The new writing component of the SAT will be reviewed by the Admissions Office and may assist in determining placement and/or admission to the College.

Applicants must take either Biology or Physics and attain a grade of “C” or higher. A completed Radiologic Technology questionnaire must be submitted. Application deadline is February 15 of each year.

Retention

Students are required to show both didactic and clinical progression each semester in order to progress through the Radiologic Technology program:

- The student **MUST PASS** each Radiologic didactic course, as well as related courses MTR 100, HAP 101, HAP 101 Lab, HAP 102, HAP 102 Lab, PHY 101 and PHY 201 with a grade of at least a B- (80) or higher.
- In order to successfully pass each RAD course and progress through the program, students must:
 - receive an 80% or higher in each lecture and lab portion of the course
 - receive an overall grade of 80% or higher
 - achieve a written exam average (written exams + final exam) of 80% or higher
 - complete all skill checklists
 - pass each Practical Exam with a 80% or higher
 - demonstrate appropriate professional behaviors as assessed by the Professional Behavior Assessment Form.

If any of the above criteria are not met, students may fail the course and will not be able to progress in the Radiology program. If students do not obtain an 80 written exam average, but meet all of the other criteria, the students' grade will be based on the written exam average. A student who fails the practical will receive an F in the course.

- The student **MUST PASS** each of the four clinical education courses (PRA 131, 132, 231, 232).
- The student **MUST PASS** all laboratory practical exams, with a grade of at least a B- (80%) or better.
- The student **MUST** demonstrate appropriate Professional Behaviors

Please refer to the **Radiologic Technology Student Handbook** for further information.

Throughout the program of study, students are required to maintain a cumulative Grade Point Average (GPA) of at least 2.00 and a minimum grade of 2.67 (B-) in each Radiologic Technology major course in order to remain in the program. Students who do not meet the GPA requirements for Radiologic Technology subjects will be placed on Academic Probation as outlined in the **Radiologic Technology Student Handbook** at the instructor's discretion.

Clinical Practicums

Clinical practicum rotations at approved sites must be completed. Students must satisfy the clinical requirements of both Johnson College and the clinical provider as a condition of graduation.

Clinical sites require criminal background checks, fingerprinting, child abuse clearance and drug testing. Clinical sites may bar students from clinical rotations if a criminal record exists or a drug test has a positive result.

Pregnancy Policy

It is the student's choice whether or not to inform the Department Chairperson and Clinical Coordinator of a pregnancy. If a student chooses not to do so, no accommodations can be made to the student's clinical assignment or program of study. Students who choose to disclose their pregnancy are required to follow the guidelines of the Pregnancy Policy as stated in the **Radiologic Technology Student Handbook**.

Criminal Background/ Drug Screening Policy

Each student will be required to have both state and federal criminal background checks, child abuse clearance, fingerprinting and drug screening. Johnson College is not responsible for the decisions or actions of other institutions or organizations that may result from students' failure of drug screening, random drug screening, background checks, or students' failure to report the results of these incidents to the college.

Failure of drug screening both on and off Johnson College premises will result in disciplinary action up to and including dismissal from the program.

Health and Character Documentation

Some programs of study, educational experiences, clinical practicums, internships, and cooperative education programs, as well as potential employers, may require a criminal background check and/or drug screening. Johnson College is not responsible for the decisions or actions of other institutions or organizations that may result from students' failure of drug screening or background check or students' failure to report the results of these incidents to the College.

Health forms and medical documentation are housed in the Radiologic Technology office in the students' permanent file. This information is strictly confidential. Proper documentation is required from the healthcare provider (example physician, lab...)

All of the clearances required to begin the clinical rotations in the spring semester will be conducted on campus.

- **Rubella Titer** or documentation of a second dose of measles, mumps, rubella vaccine. (**MMR**)
- **Chicken Pox (Varicella)** -history of the disease, proof of the vaccine or laboratory evidence of immunity.
- **Yearly Two-Step PPD** (Tuberculosis) screening is required. If test results are positive, a chest x-ray is required.
- **Hepatitis B** immunization is a series of three shots. It is required for the student to have at least the first two doses of the vaccine before their clinical rotation begins and proof of receiving the full Hepatitis B series will be needed.
- **Influenza** 1 dose of influenza vaccine annually is required by the clinical facilities or a mask will have to be worn in clinic if the vaccine cannot be given.
- **CPR** (cardiopulmonary resuscitation) certification from an accredited provider is required. It is the student's responsibility to complete the certification before the start of Clinical Practicum I.

Only the following two CPR courses are acceptable:

- **American Heart Association Health Care Provider or**
- **American Red Cross Professional Rescuer.**
- **Yearly Criminal Background Check** for each student is required by the College and the clinical affiliates upon acceptance into the Radiologic Technology program. Students must provide an updated criminal background check annually. **Any misdemeanors, felonies, convictions, etc. may inhibit clinical placement.**

Radiography students are required to provide:

- Evidence that he/she is in good health from his/her physician. The **Student Health Clearance Form** is located on <http://www.johnson.edu/prospective-students/admissions/resources> and is found with the welcome letter sent to newly accepted students.

Proof of Health Insurance- students must provide a copy of their current health insurance cards to the Clinical Coordinator for their clinic file. Health insurance coverage is mandatory for each student in order to participate in his or her clinical education and must be updated annually. If your name is not printed on your card, you must obtain a letter from your provider indicating that you are covered under your parents/spouses plan.

Student Handbook

Radiologic Technology students are responsible for reading and abiding by all policies and procedures in the **Radiologic Technology Student Handbook**.

Radiologic Technology Major Courses (48 credits)

RAD 110	Ethics/Legal for Imaging Professionals	1
RAD 132	Radiologic Positioning I/Lab	4
RAD 133	Radiologic Exposures & Principles I/Lab	4
RAD 138	Radiation Biology & Protection	3
RAD 144	Patient Care/Lab	2
RAD 145	Radiologic Positioning II/Lab	3
RAD 146	Radiologic Exposures & Principles II	3
RAD 147	Pharmacology & Drug Administration for Imaging	1
RAD 231	Radiologic Pathology	2
RAD 233	Image Analysis	2
RAD 234	Advanced Exposures	2
RAD 236	Advanced Medical Imaging	2
RAD 237	Registry Seminar	2
PRA 131	Clinical Practicum I	1
PRA 132	Clinical Practicum II	2
PRA 231	Clinical Practicum III	1
PRA 232	Clinical Practicum IV	1
Related Courses (12 credits)		
HAP 101	Human Anatomy & Physiology I	3
HAP 101L	Human Anatomy & Physiology I Lab	1
HAP 102	Human Anatomy & Physiology II	3
HAP 102L	Human Anatomy & Physiology II Lab	1
MTR 100	Medical Terminology	1
PHY 201	Imaging Physics	3
General Education (24 credits)		
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
ENG 211	Communication Theory	3
or ENG 212	Public Speaking	3
HMN 101	Introduction to Humanities	3
MAT 101	College Algebra I and Trigonometry	3
or MAT 201	College Algebra II and Trigonometry	3
MAT 121	Introduction to Statistics	3
PHY 101	Introductory Physics	3
PSY 101	General Psychology	3
or SOC 101	Introduction to Sociology	
Other requirements		
SS 101	Student Success Seminar	1
Minimum Credits to Graduate		73

**Radiologic Technology
Associate in Science (AS)
Semester Program Outline**

		Credits
Semester 1		
RAD 132	Radiologic Positioning I/Lab	4
RAD 133	Radiologic Exposures & Principles I/Lab	4
RAD 144	Patient Care/Lab	2
HAP 101	Human Anatomy & Physiology I	3
HAP 101L	Human Anatomy & Physiology I Lab	1
MAT 101	College Algebra I and Trigonometry	3
or MAT 201	College Algebra II and Trigonometry	
MTR 100	Medical Terminology	1
SS 101	Student Success Seminar	1
		19
Semester 2		
PRA 131	Clinical Practicum I	1
RAD 145	Radiologic Positioning II/Lab	3
RAD 146	Radiologic Exposures & Principles II	3
RAD 147	Pharmacology & Drug Admin. for Imaging	1
HAP 102	Human Anatomy & Physiology II	3
HAP 102L	Human Anatomy & Physiology II Lab	1
PHY 101	Introductory Physics	3
ENG 101	English Composition I	3
		18
Summer Session I		
PRA 132	Clinical Practicum II	2
First Year Totals		39

**Radiologic Technology
Associate in Science (AS)
Semester Program Outline**

		Credits
Semester 3		
PRA 231	Clinical Practicum III	1
RAD 138	Radiation Biology & Protection	3
RAD 233	Image Analysis	2
RAD 234	Advanced Exposures	2
CPT 101	Microcomputer I	3
ENG 211	Communication Theory	3
or ENG 212	Public Speaking	
PHY 201	Imaging Physics	3
PSY 101	General Psychology	3
or SOC 101	Introduction to Sociology	
		20
Semester 4		
PRA 232	Clinical Practicum IV	1
RAD 110	Ethics/Legal for Imaging Professionals	1
RAD 231	Radiologic Pathology	2
RAD 236	Advanced Medical Imaging	2
RAD 237	Registry Seminar	2
HMN 101	Introduction to Humanities	3
MAT 121	Introduction to Statistics	3
		14
Second Year Totals		34
Program Totals		73
Minimum Credits to Graduate		73

Veterinary Technology (AS)

Program Objective

The Veterinary Technology program prepares students to join an animal-care team as entry-level technicians. Technicians collect samples, perform lab tests, take radiographs, prepare the surgical suite, assist in surgery, monitor anesthesia, provide general nursing care to patients, and assume other clinical duties. Second-year students complete clinical rotations in the Animal Care Center, a pet wellness center on the campus of Johnson College. The program prepares students to become Certified Veterinary Technicians (CVT) upon passing the Veterinary Technician National Exam (VTNE).

Career Opportunities

Graduates work in many areas of veterinary medicine such as small and large animal clinics, research facilities, academia, zoos, laboratories, pharmaceutical companies, and government agencies such as the United States Department of Agriculture (USDA).

Program Goals

Goal 1: To prepare graduates to function as an entry-level veterinary technician in a variety of clinical settings.

Student Learning Outcomes – Students Will:

- Demonstrate competence in the skills needed as outlined by the CVTEA, Policies & Procedures Manual, Appendix I, and required tasks for licensure/certification as an entry level Veterinary Technician.
- Conduct themselves in a manner in accordance with the standards set forth by the AVMA-CVTEA & the Johnson College Veterinary Technology Program for a Veterinary Technician.
- Demonstrate competence in the following skills to include but not limited to: Understanding the approach to providing safe and effective care for birds, reptiles, amphibians, rabbits and ferrets.
- Demonstrate competence in the following skills to include but not limited to: Small animal dentistry, patient assessment and patient care.
- Demonstrate competence in the following skills to include but not limited to: Basic husbandry, handling, medicating and clinical procedures for equine and bovine patients.
- Demonstrate competence in the following skills to include but not limited to: Safely and effectively handle common laboratory animals used in animal research and their husbandry needs.
- Demonstrate competence in the following skills to include but not limited to: Laboratory/clinical pathology; sample collection, perform lab tests, and prepare samples for off-site testing.

- Demonstrate competence in the following skills to include but not limited to: Radiography; perform radiographs, process radiographs, determine diagnostic quality.
- Demonstrate competence in the following skills to include but not limited to: Pharmacology/ anesthesiology; proper administration, mechanism of action and related side effects of medications, monitoring of general/light anesthesia, how to employ critical thinking skills for medical calculations.
- Demonstrate competence in the following skills to include but not limited to: Surgical; surgical suite preparation, surgical assistance, proper aseptic and sterile techniques.
- Students/graduates will demonstrate competence in the following skills to include but not limited to: Other clinical duties; general office skills, public relations, public communications.

Goal 2: To prepare students to pass the Veterinary Technology National Exam (VTNE) and to obtain employment as a Certified Veterinary Technician (CVT.)

Student Learning Outcomes:

- Graduates will pass the VTNE at a rate consistent with AVMA-CVTEA requirements.

Goal 3: To ensure that educators of the program, both didactic and clinical, provide instructions and guidance that meets the needs of the students and the program.

Outcomes:

- Faculty will maintain current licensure in PA
- Faculty will participate in continuing professional competence related to teaching responsibilities.
- Faculty will utilize effective instructional methods during didactic and clinical laboratory courses.

Goal 4: To provide students with a curriculum and resources that are current and in compliance with the standards set forth by the American Veterinary Medical Association (AVMA), by the Committee of Veterinary Technician Education and Activities (CVTEA), by the International Animal Care and Use Committee (IACUC), by the United States Department of Agriculture (USDA), by the American Association of Veterinary State Boards (AAVSB), and by the institution.

Outcomes:

- The program director will review all requirements and update program documents accordingly
- The curriculum will be reviewed annually by the Program Advisory Committee to ensure it is aligned with current practice trends.

- The program resources will be reviewed annually to ensure adequacy to meet the needs of the program.

Immunizations & Scrubs

In addition to tuition and fees, students are responsible for the costs of immunizations.

Veterinary Technology students will be required to purchase Johnson College scrubs during their 4th semester in preparation for VET 212/213. The student will be required to wear these scrubs during the entire 5-week rotation.

Programmatic Accreditation

The Veterinary Technology program is accredited by the American Veterinary Medical Association (AVMA).

Recommended Courses

Recommended courses in high school include Physics, and math courses at a level of Algebra II or higher.

Special Admissions Requirements

A minimal high school grade point average (GPA) of 2.5 along with a minimal Scholastic Aptitude Test (SAT) score of 900 (math and verbal) total or a minimal American College Test (ACT) of 18 is required for admission.

- 1 year of Algebra with a “C” or higher
- 2 year of English with a “C” or higher
- 2 years of Biology or a Life Science with a “C” or higher
- 1 year of Chemistry with a “C” or higher

Applicants must take 2 years of Biology and/or Life Sciences, and Inorganic Chemistry and attain a grade of “C” or higher. A completed Veterinary Technology questionnaire must be submitted and ten hours of observation at a veterinary clinic is required. Any personal references must be from a veterinarian/veterinary staff or animal husbandry individual.

Special Enrollment Requirements

Prior to the start of the first semester, students must provide proof of tetanus and rabies. Rabies inoculation is in order to participate in any laboratory and clinical activities involving animals.

Retention

Veterinary Technology students are required to maintain a cumulative 2.33 GPA (76% or higher) in VET courses. Additionally, a student must receive an average grade of “C+” (76%) or higher in each VET course. If a student receives a grade below 76%, the student must re-take the course at his/her own expense. If the student’s GPA falls below 2.33, the student will be placed on academic probation. Please review to the Veterinary Technology Academic Progression Policy for details concerning academic progress and probation details.

VET 204 and VET 208, Senior Clinical Rotations I and II are capstone courses. The clinical experiences are to provide an environment allowing students to incorporate and enhance all AVMA required tasks. Students must receive a score of 76% or better on Clinical Rotation written final exams, oral/practical exams, and instructor evaluations of students. Students who do not obtain a minimum score of 76% in any of the three evaluations will receive a letter grade of “F” for the rotation and must repeat the course. Students are also required to adhere to strict guidelines on patient neglect or cruelty.

Internship/Cooperative Education Experience

A five-week internship or cooperative education experience at an approved site must be completed after the last semester of the second year. Students must satisfy the internship requirements of both Johnson College and the internship provider as a condition of graduation.

Some internship sites may require a criminal background check and/or a drug test. Internship sites may bar students from an internship if a criminal record exists or a drug test has a positive result. Costs for travel to and from an internship site are the responsibility of the student.

Pregnancy Policy

Students should contact the Veterinary Technology Department Chair for a copy of the program’s pregnancy policy.

Rabies / Tetanus Inoculations:

The Center for Disease Control considers individuals working with animals (including veterinarians and their staff) to be in the high-risk category. The CDC’s recommendation for these individuals is to obtain a primary course of rabies vaccinations followed by serologic testing or booster vaccination every two years.

Vaccinations against tetanus and rabies are required for all Veterinary Technology students. Proof of rabies and tetanus inoculation prior to handling animals is required.

Veterinary Technology Major Courses (48 Credits)

VET 101	Introduction to Veterinary Technology/Clinical Mgmt.	1
VET 102	Clinical Applications for Large Animals	2
VET 102L	Clinical Applications for Large Animals Lab	2
VET 103	Clinical Applications for Small Animals	2
VET 103L	Clinical Applications for Small Animals Lab	1
VET 104	Animal Anatomy and Physiology I	3
VET 104L	Animal Anatomy and Physiology Lab I	1
VET 105	Animal Anatomy and Physiology II	3
VET 105L	Animal Anatomy and Physiology Lab II	1
VET 106	Animal Husbandry/Breeds/Nutrition	2
VET 201	Pharmacology & Anesthesia	3
VET 202	Clinical Pathology	2
VET 202L	Clinical Pathology Lab	1
VET 203	Parasitology	2
VET 203L	Parasitology Lab	1
VET 204	Clinical Rotation I	1
VET 205	Surgical Nursing I and Lab	2
VET 206	Microbiology & Immunology	2
VET 206L	Microbiology & Immunology Lab	1
VET 207	Surgical Nursing II and Lab	2
VET 208	Clinical Rotation II	1
VET 209	Veterinary Radiology	1
VET 209L	Veterinary Radiology Lab	1
VET 210	Intensive Care Applications	3
VET 211	Diseases & Zoonoses	3
VET 212	Internship	4
or VET 213	Co-op Educational Experience	4
General Education (22 Credits)		
BUS 101	Introduction to Business	3
CHE 101	Chemistry I	3
CHE 101L	Chemistry I Lab	1
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
ENG 212	Public Speaking	3
MAT 101	College Algebra I and Trigonometry	3
MAT 205	Medicine & Mathematics	3
Other requirements		
SS 101	Student Success Seminar	1
Minimum Credits to Graduate		71

Veterinary Technology Associate in Science (AS) Semester Program Outline

		Credits
Semester 1		
VET 101	Introduction to Veterinary Technology/Clinical Management	1
VET 102	Clinical Applications for Large Animals	2
VET 102L	Clinical Applications for Large Animals Lab	2
or VET 103	Clinical Applications for Small Animals	2
VET 103L	Clinical Applications for Small Animals Lab	1
VET 104	Animal Anatomy & Physiology I	3
VET 104L	Animal Anatomy & Physiology Lab I	1
CPT 101	Microcomputer I	3
MAT 101	College Algebra I and Trigonometry	3
ENG 101	English Composition I	3
SS 101	Student Success Seminar	1
		18/19
Semester 2		
VET 102	Clinical Applications for Large Animals	2
VET 102L	Clinical Applications for Large Animals Lab	2
or VET 103	Clinical Applications for Small Animals	2
VET 103L	Clinical Applications for Small Animals Lab	1
VET 105	Animal Anatomy and Physiology II	3
VET 105L	Animal Anatomy and Physiology Lab II	1
VET 203	Parasitology	2
VET 203L	Parasitology Lab	1
VET 206	Microbiology & Immunology	2
VET 206L	Microbiology & Immunology Lab	1
CHE 101	Chemistry I	3
CHE 101L	Chemistry I Lab	1
		17/18
First Year Totals		36

The sequence of classes on this page addresses students starting the program in the fall. Students admitted into and beginning their coursework in the spring semester should consult with an Enrollment Specialist and/or the Program Director for further information.

**Veterinary Technology
Associate in Science (AS)
Semester Program Outline**

		Credits
Semester 3		
VET 106	Animal Husbandry/Breeds/Nutrition	2
VET 201	Pharmacology & Anesthesia	3
VET 202	Clinical Pathology	2
VET 202L	Clinical Pathology Lab	1
VET 204	Clinical Rotation I or VET 208 Clinical Rotation II	1
VET 205	Surgical Nursing I and Lab	2
MAT 205**	Medicine & Mathematics	3
		14
Semester 4		
VET 207	Surgical Nursing II and Lab	2
VET 208	Clinical Rotation II or VET 204 Clinical Rotation I	1
VET 209*	Veterinary Radiology	1
VET 209L*	Veterinary Radiology Lab	1
VET 210	Intensive Care Applications	3
VET 211	Diseases & Zoonoses	3
BUS 101	Introduction to Business	3
ENG 212	Public Speaking	3
		17
Summer Semester		
VET 212	Internship or	4
VET 213	Co-op Educational Experience	4
Second Year Totals		35
Program Totals		71
Minimum Credits to Graduate		71

* Must be taken concurrently with VET 204 offered in Semester 3 & 4.

** Must be taken concurrently with VET 201

The sequence of classes on this page addresses students starting the program in the fall. Students admitted into and beginning their coursework in the spring semester should consult with an Enrollment Specialist and/or the Program Director for further information.

CERTIFICATE PROGRAMS

Diesel Preventative Maintenance Technology (Certificate)

The Diesel Preventative Maintenance Technician program prepares students to enter the workforce ready to perform routine repair procedures, preventive maintenance, and safety applications.

Graduates work as brake technicians as well as perform routine maintenance and make general repairs.

Typical employers of Diesel Preventative Maintenance technicians are truck, farm, and earth-moving equipment dealerships; trucking companies; truck service centers; engine repair/machine shops; truck equipment distributors; independent service garages.

Diesel Preventative Maintenance Technology Major Courses (22 Credits)

VMR 141	Introduction to Vehicle Maintenance & Repair Tech./Lab	3
VMR 142	Brake Systems/Lab	3
VMR 143	Steering and Suspension Systems/Lab	3
VMR 144	Electrical & Electronic Systems/Lab	3
DTT 155	Diesel Fuel Injection Systems/Lab	3
DTT 146	Diesel Engine Overhaul /Lab	4
IET 101	Introduction to Automotive and Diesel Electronics	3

General Education (9 Credits)

BUS 101	Introduction to Business	3
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3

Minimum Credits to Graduate 31







This course prepares students with skills labeled by the Commonwealth of Pennsylvania as those used in traditional or evolving green occupations.

For more information about our graduation rates, the median debt of students who completed the program, and other important information, please visit our website at <http://www.johnson.edu/prospective-students/certificate-programs-gainful-employment/>

DIESEL PREVENTATIVE MAINTENANCE TECHNOLOGY CERTIFICATE**

Semester Program Outline

	Credits
Semester 1	
VMR 141  Introduction to Vehicle Maintenance & Repair Tech./Lab	3
VMR 142 Brake Systems/Lab	3
VMR 143 Steering and Suspension Systems/Lab	3
IET 101 Intro. to Auto & Diesel Electronics	3
CPT 101 Microcomputer I	3
(* MAT 101/L College Prep Algebra-based on ACCUPLACER score)	3
Total Semester 1	15/18*
Semester 2	
VMR 144  Electrical & Electronic Systems/Lab	3
DTT 155  Diesel Fuel Injection Systems/Lab	3
DTT 146  Diesel Engine Overhaul/Lab	4
BUS 101 Introduction to Business	3
ENG 101 English Composition I	3
Total Semester 2	16*
TOTAL CREDITS CERTIFICATE	31 / 34*

* MAT101/L is required for students preparing to enter the Diesel Truck Technology Program.

**Refer to the Diesel Truck Technology program for course descriptions.

The sequence of classes on the following page addresses students starting the program in the fall. Students admitted into and beginning their coursework in the spring semester should consult with an Enrollment Specialist and/or the Program Director for further information.

Welding Technology (Certificate)

The Welding Technology certificate course prepares students for entry-level work in the welding industry. Students learn about safety, hand tools, oxy-acetylene torches, plasma arc, shielded metal arc welding (stick), gas metal arc welding (MIG), gas tungsten arc welding (TIG), flux cored arc welding, metallurgy, print reading, and weld symbols.

Graduates work as welders, welder/fabricators, maintenance welders, fitters, ornamental metal sculptors, and welder helpers.

Typical employers in the welding industry include structural steel fabricators, custom metal shops, industrial contractors, shipyards, pipe and pressure vessel fabricators, and retail welding sales.

Program Learning Goals:

Goal 1: The welding program will prepare the student for entry level employment in welding.

Student Learning Outcomes - Students will:

- Demonstrate safe welding practices
- Work as welders, fabricators, fitters and welder helpers
- Perform basic welding skills in SMAW (stick), GMAW (mig), GTAW (tig) and oxyfuel cutting procedures
- Maintain arc welders

Welding Technology Major Courses (30 Credits) *

WTC 111	Shielded Metal Arc Welding I/Lab	3
WTC 112	Gas Metal and Flux Cored Arc Welding I/Lab	3
WTC 113	Gas Tungsten Arc Welding I/Lab	3
WTC 114	Shielded Metal Arc Welding II/Lab	3
WTC 115	Gas Metal and Flux Cored Arc Welding II/Lab	3
WTC 116	Gas Tungsten Arc Welding II/Lab	3

Related Courses (6 Credits)

BRT 101	Blueprint Reading	3
MAT 100	Applied Mathematics for Welders	3

General Education Courses (6 Credits)

CPT 101	Microcomputer I	3
ENG 101	English Composition I	3

Minimum Credits to Graduate	30
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For more information about our graduation rates, the median debt of students who completed the program, and other important information, please visit our website at <http://www.johnson.edu/prospective-students/certificate-programs-gainful-employment/>

*All major welding courses will be held at the College's welding shop. This satellite site is located at 2001 Rosanna Ave., Scranton, PA. The welding shop is approximately 1.5 miles from the Main Campus located at 3427 North Main Avenue, Scranton.

WELDING TECHNOLOGY CERTIFICATE

Semester Program Outline

		Credits
Semester 1		
WTC 111	Shielded Metal Arc Welding I/Lab	3
WTC 112	Gas Metal and Flux Cored Arc Welding I/Lab	3
WTC 113	Gas Tungsten Arc Welding I/Lab	3
BRT 101	Blueprint Reading	3
MAT 100	Applied Mathematics for Welders	3
Total Semester 1		15
Semester 2		
WTC 114	Shielded Metal Arc Welding II/Lab	3
WTC 115	Gas Metal and Flux Cored Arc Welding II/Lab	3
WTC 116	Gas Tungsten Arc Welding II/Lab	3
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
Total Semester 2		15
TOTAL CREDITS CERTIFICATE		30

COURSE DESCRIPTIONS

Programs of Study

Advanced Manufacturing Engineering Technology

Course No.	Course Title	Credits
AMT 101	Principles for Advanced Manufacturing This course introduced the students to advanced manufacturing and the man areas into which it is incorporated. The focus of the course will be on manufacturing processes, CAD/CAM basics, robotics, sustainable design and manufacturing, and related manufacturing principles. The course is designed to give the students an understanding of advanced manufacturing's main applications, and the many occupational possibilities it presents.	3
AMT 111	Fundamentals of Metal Cutting/Lab This course covers machine trade theory including safety practices and working concepts of hand tools, band saws, belt sanders, pedestal grinders, drill presses, and cutting tools. It also provides practical applications including jobs and projects involving hand tools, cutting, deburring, sharpening, and grinding various cutting tools. Measuring instruments are also stressed throughout this course.	3
AMT 112	Subtractive Manufacturing/Lab Safety, cutting speeds, types of lathes, lathe accessories, lathe operation, and measuring instruments are covered in this course. Lathe operations covered include facing, turning, center drilling, reaming, boring, tapering, knurling, and thread chasing. Information about safety, types of milling machines, milling machine attachments, milling operations are covered in this course. Milling operations include squaring a piece, locating holes, drilling operations, and milling slots. Technical competence in the use of measuring instruments is also stressed. (<i>Prerequisite:</i> AMT 111)	3
AMT 121	Introduction to Electricity/Lab In this course, students will investigate the properties of electricity and its use in the industrial setting for powering systems and controlling them. The course will start with an introduction to electricity, its properties, and safety concerns when engaging it. The students will then	3

work with the industrial aspects of electricity to include three phase systems for power and lower voltage systems for control purposes. Electrical safety, test and measurement of these systems to ensure proper operation will be an integral part of this course.

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| AMT 122 | Sensors and Systems in Automation/Lab | 3 |
| | This course will introduce the students to common types of detection devices used in automation and allow the student to set-up, operate and troubleshoot them in a practical setting. The course will also introduce the student to pneumatic and vacuum systems used in the industrial setting for control of actuators and grippers in an automated system. The student will work with hydraulic, pneumatic and vacuum systems to deal with the concepts of setup and integration of these systems into the larger control scheme of an automated system. | |
| AMT 206 | Systems Integration (Capstone Project)/Lab | 4 |
| | This course will require all students to attend a scheduled weekly meeting to discuss the scope of their work, projects to be completed, project timelines, budgets, and progress made during the previous week. Successes and challenges encountered during the previous week will also be discussed. All students are expected to participate and contribute in a positive manner. | |
| AMT 208 | Internship | 4 |
| | This educational experience is designed to expose the student to an actual industrial, commercial, or clinical environment. Students are placed into a contracted facility after completing 47 credit hours, maintaining a 2.0 GPA, and having met all other program prerequisites and academic requirements prior to their final spring semester. The student is expected to adhere to all policies and regulations associated with their work term facility. Students will work on projects selected to expose the student to “live” work situations, while building upon the student’s knowledge, skill and attitude as an entry-level technician. These previously mentioned criteria will also be used as a component of the student’s grade for this course. The schedule for meeting the requirement of this experience will be arranged between the student, faculty member and internship site. (Compensated or Non-Compensated position) | |

AMT 211	Computer Numerical Control Machining/Lab	3
	This course covers the general information, such as G codes and M codes needed to program CNC lathes and vertical machining centers. CNC lathe and vertical machining center safety procedures, tooling set-up, programming, and operation are included in the practical application portion of this course. Tool offsets are also covered in this course. <i>(Prerequisites: AMT 111, AMT 112)</i>	
AMT 213	Computer Aided Design/Computer Aided Manufacturing/Lab	3
	This course introduces the students to the use of Computer Aided Design (CAD) software to create 2 D geometry. Once the 2D geometry is complete tool paths are created to machine parts, editing tool paths, and downloading appropriate information to CNC and machine. <i>(Prerequisite: AMT 211)</i>	
AMT 214	Additive Manufacturing/Lab	3
	This course introduces the students to Solidworks and how to create 3 D drawings. Once the part is drawn it is opened in Catalyst and printed in the 3D printer. The part is then cleaned of the support material and checked for accuracy and functionality. The lecture portion will introduce Solidworks as well as the Additive Manufacturing processes, materials that are used, and how it is used in industry. The lab portion will allow hands on practice with Solidworks to draw 3D contours, and how to prepare it to run on a 3 D printer. Set-up and operation of the 3D printer as well as the rinse tank is covered in the lab portion.	
AMT 221	Programmable Logic Controllers/Lab	4
	This course is designed to introduce the student to modern programmable logic controllers through theory and hands on experiments with the CompactLogix Programmable Automation Controllers (PAC's). The student will investigate the setup, configuration, programming, and implementation of the controllers through lab exercises designed to have the student build a system from beginning to end. The course then continues with an examination of the different types of hardware devices that are used in conjunction with PAC's. An emphasis is placed on programming projects throughout the course.	
AMT 223	Automation and Robotics/Lab	3
	This course begins with a study of the terminology for automated and robotic systems. Then the students will work with the classifications, coordinate systems, and physical makeup of a robotic system. This	

course continues with an examination of the power systems, lifting capacities and applications for automation and robots. An investigation of sensors, vision, artificial intelligence, the principles and techniques involved in working with robotics.

(Prerequisite AMT 221 or instructor's approval*)





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| BRT 105 | Blueprint/Schematic Reading 3
This course conveys to the students an understanding of the procedures for reading and interpreting industrial prints. The course includes related peripheral information that will enhance the students' understanding of the diversity that is characteristic of industrial prints. Many types of industrial prints and their applications will be covered during this course. |
| LOG 291 | Total Quality Management 3
This course focuses on the development of efficient product management from production to customer relations. Various manufacturing processes are evaluated and the importance of employee input is stressed. Products are followed for quality control beyond production to purchase and warranty. Methodologies like Lean and Six Sigma will be addressed. <i>(Prerequisites:</i> BUS 101, MAT 121) |

Architectural Drafting & Design Technology



This course prepares students with skills labeled by the Commonwealth of Pennsylvania as those used in traditional or evolving green occupations

Course No.	Course Title	Credits
ADT 113	Residential Planning/Lab This course will provide hands on Computer-Assisted Drafting (CAD) to create Residential Floor Plans, Residential Elevations, Site Layouts, Structural Framing Plans, Plumbing Plans, HVAC Plans and Electrical drawings. It will explain in detail what is required on a Residential Set of drawings for permitting purposes and will introduce students to basic Sustainability concepts and procedures. (<i>Prerequisite:</i> ADT 114)	4
ADT 114	Introduction to Computer-Assisted Drafting (CAD)/Lab This course is an introductory course into Computer-Assisted Drafting. It explains basic CAD commands required to produce working drawings. Students will work with basic lines and editing commands to more complicated concepts in computer drafting. They will produce basic Floor Plans, Elevations, Sections and Details required in the residential drafting field.	4
ADT 120	Contract Drawings This course will introduce students to reading and understanding Contract Drawings for residential and commercial construction drawings. This course will cover the composition of different industry drawings such as Residential House Plans, Commercial Architectural Plans, Civil Plans, Structural Plans, Plumbing Plans, HVAC Plans and Electrical drawings. Students will be instructed on what type of information these drawings contain and what purpose these drawings serve.	3
ADT 121	Residential Cost Estimating This course will train students to use Residential Drawings to calculate areas, volumes and other material quantities in order to estimate material costs. It will introduce students to gathering information from various types of drawings such as Site Plans, Floor Plans, Structural Plans, building systems plans and use that information to estimate construction costs for the projects.	3



ADT 220 	Building Information Modeling, Residential/Lab	4
	This course expands computer skills to include Building Information Modeling (BIM) for residential construction. This course includes basic Residential building modeling and presentation of the projects in multi-views. It contains sustainability concepts such as site orientation studies for sustainability design.	
ADT 221 	Building Information Modeling, Commercial/Lab	4
	This course expands BIM skills to include Commercial Building Projects and the use of features such as structural steel, multi-levels, curtain walls and store fronts. Students will expand the use of Building Information Modeling by using more advanced program features to implement commercial design into the projects.	
ADT 223 	Codes and Ordinances	3
	This course introduces students to the many regulatory agencies that govern over the drafting and design field. It emphasizes the preparation of permit information for residential projects along with commercial building regulations for the protection of public health, safety and welfare. This course explains in further detail what it means to be sustainable and what practices can be used in “Green Building” Technology.	
ADT 224	Specifications	3
	This course explores building project materials and product specifications from the CSI format and how these materials and products relate to the drafting and design process. Students will research and write basic building material specifications needed to define the scope of work, construction materials, methods and quality control.	
ADT 225	Commercial Cost Estimating	3
	This course will bring a new dimension to estimating and will focus on Commercial Building Projects. It will include estimates on commercial building methods such as site work, structural steel systems and commercial building products.	
ADT 226 	Sustainability Design	3
	This course will explain what “sustainability” is and include the construction materials and methods used in sustainability design and how it relates to building design. Students will expand their knowledge to include sustainability concepts into practical construction methods and details used in drafting and design.	





ADT 217	Internship	4
	This work experience is designed to expose the student to an industrial, commercial, or clinical environment. Students are placed into a contracted facility after completing 30 credit hours, having a 2.00 GPA, and meeting all other program prerequisites and academic requirements prior to their final spring semester. Students are expected to adhere to all policies and regulations associated with the facility. Students will work on projects selected to expose the student to “live” work situations, while building upon the student’s knowledge, skill and attitude as an entry-level technician and will be used to grade the student’s performance for the course. The schedule for meeting the requirement of this experience will be arranged between the student, faculty member and internship site. (No compensation)	
ADT 218	Cooperative Educational Experience	4
	This work experience is designed to expose the student to an industrial, commercial, or clinical environment. Students are placed into a contracted facility after completing 30 credit hours, having a 2.00 GPA, and meeting all other program prerequisites and academic requirements prior to their final spring semester. Students are expected to adhere to all policies and regulations associated with the facility. Students will work on projects selected to expose the student to “live” work situations, while building upon the student’s knowledge, skill and attitude as an entry-level technician and will be used to grade the student’s performance for the course. (Compensation)	
BUS 110	Business Research and Report Writing	3
	This course focuses on the skills and techniques required to research, write and format professional business reports. Topics include locating technical specifications, evaluating information, writing specifications and work scopes, communicating specifications to others, formatting and presenting information. (<i>Prerequisite:</i> ENG 101)	
MCH 201	Statics and Strengths of Materials	3
	This course is an examination of coplanar force systems, analysis of trusses, axial stress and strain, material properties, centroids, moments of inertia, stresses in beams, beam design and torsion. (<i>Prerequisite:</i> C or better in MAT 101 or permission from Mathematics/General Science Chair.)	


Automotive Technology



This course prepares students with skills labeled by the Commonwealth of Pennsylvania as those used in traditional or evolving green occupations

Course No.	Course Title	Credits
VMR 141 	Introduction to Vehicle Maintenance & Repair Technology/Lab 3 This course covers information on hand tools, machines, and equipment common to the Vehicle maintenance field, general service procedures, lubricants, reference manuals, pre-delivery inspection of new and used vehicles and preventive maintenance procedures. High priority tasks recommended by ASE (Automotive Service Excellence) are covered. This will prepare students to take the ASE technician certification test.	3
VMR 142	Brake Systems/Lab This course covers information on hydraulic and air brake systems. Mechanical foundation, air supply, service system principles, major components, parking brake systems, brake system diagnostics, service to drum brake assemblies, air lines and hoses, brake switches, antilock brake principles and service are all a part of this course. High priority tasks recommended by ASE (Automotive Service Excellence) are covered. This will prepare students to take the ASE technician certification test.	3
VMR 143	Steering and Suspension Systems/Lab This course covers information on steering and suspension systems, theory and principles, independent suspensions, geometric principles, factors affecting wheel alignment, tools and equipment used for steering and suspension, troubleshooting of suspension and steering, wheel bearings service, manual steering and power steering system operation. High priority tasks recommended by ASE (Automotive Service Excellence) are covered. This will prepare students to take the ASE technician certification test.	3
VMR 144 	Electrical & Electronic Systems/Lab This course covers information on electricity, basic electrical circuits, tools and equipment, batteries, charging systems, starting systems, lighting systems, horn, wipers and washers, cooling fans, instrument circuits and body electrical systems. High priority tasks recommended by ASE (Automotive Service Excellence) are covered. This will prepare students to take the ASE technician certification test.	3

- VMR 245**  **HVAC Vehicle Systems/Lab** **3**
This course covers information on the operation of heating and air conditioning as applied to today's cars and trucks. New learning experiences in the troubleshooting and servicing of these systems are taught. High priority tasks recommended by ASE (Automotive Service Excellence) are covered. This will prepare students to take the ASE technician certification test.
- AUT 155**  **Engine Performance & Emissions/Lab** **3**
This course covers information and practical experience on the operation and approved servicing of emission systems, fuel injection systems, computerized emission control systems, computerized engine procedures and live vehicles to reinforce the information presented. Computer diagnostics is introduced including closed-loop theory, closed-loop diagnostics; basic troubleshooting and scan tool operation is also covered. Proper safety procedure related to fuel and emission systems is also covered. High priority tasks recommended by ASE (Automotive Service Excellence) are covered. This will prepare students to take the ASE technician certification test.
- AUT 158**  **Internal Combustion Engine Fundamentals/Lab** **3**
This course covers information and practical experience on the operation and approved servicing of engine cooling systems and lubrication systems. The four- and two-stroke engine configurations are addressed along with various camshaft configurations. Proper safety procedures related to the diagnosis and repair of the internal combustion engine are also covered. High priority tasks recommended by ASE (Automotive Service Excellence) are covered. This will prepare students to take the ASE technician certification test.
- AUT 241**  **Gasoline Engine Overhaul Procedures/Lab** **4**
Information and practical experience is provided for engine overhaul procedures. Emphasis is placed on the repair of cylinder heads, valve trains, and engine blocks. Proper safety procedures related to engine overhaul will also be covered. High priority tasks recommended by ASE (Automotive Service Excellence) are covered. This will prepare students to take the ASE technician certification test.




- AUT 252**  **Fuel Injection Systems/Lab** **3**
This course covers information and operation of various fuel injection systems. An in-depth study of safety procedures, preventive maintenance, and distinctions between gasoline and diesel injection are stressed. High priority tasks recommended by ASE (Automotive Service Excellence) are covered. This will prepare students to take the ASE technician certification test.
- AUT 254** **Automatic Transmissions and Transaxles/Lab** **3**
This course covers the information and practical experience necessary to service automatic transmissions. Systematic troubleshooting procedures, adjustments and unit overhaul are part of this program. High priority tasks recommended by ASE (Automotive Service Excellence) are covered. This will prepare students to take the ASE technician certification test.
- AUT 255** **Manual Transmissions and Differentials/Lab** **3**
This course covers the theory and service experience on complete power-train systems for front-, rear-, and four-wheel drive vehicles. New learning experiences include inspection, replacement, servicing, and rebuilding procedures and proper diagnostics of manual transmissions, transaxles, and locking hubs. In addition, servicing, troubleshooting and overhaul procedures for 4-wheel drive differentials and drive differentials and drive shafts will be covered. Proper safety procedures related to manual transmissions and differentials will also be covered. High priority tasks recommended by ASE (Automotive Service Excellence) are covered. This will prepare students to take the ASE technician certification test.
- AUT 247** **Internship** **4**
This work experience is designed to expose the student to an industrial, commercial, or clinical environment. Students are placed into a contracted facility after completing 30 credit hours, having a 2.00 GPA, and meeting all other program prerequisites and academic requirements prior to their final spring semester. Students are expected to adhere to all policies and regulations associated with the facility. Students will work on projects selected to expose the student to “live” work situations, while building upon the student’s knowledge, skill and attitude as an entry-level technician and will be used to grade the student’s performance for the course. The schedule for meeting the requirement of this experience will be arranged between the student, faculty member and internship site. (No compensation)

AUT 248	Cooperative Educational Experience 4 This work experience is designed to expose the student to an industrial, commercial, or clinical environment. Students are placed into a contracted facility after completing 30 credit hours, having a 2.00 GPA, and meeting all other program prerequisites and academic requirements prior to their final spring semester. Students are expected to adhere to all policies and regulations associated with the facility. Students will work on projects selected to expose the student to “live” work situations, while building upon the student’s knowledge, skill and attitude as an entry-level technician and will be used to grade the student’s performance for the course. (Compensation) <i>(Prerequisite: GPA 2.0 or greater)</i>
AUT 249	Automotive Electrical Technology/Lab 4 This course will reinforce theories and principles of automotive electronics through the use of diagnostic equipment for practical troubleshooting scenarios. Shop experiments will be performed to trace and repair electrical issues with the use of wiring diagrams. Students will be able to follow electrical flow through a circuit on a vehicle wiring diagram. Proper safety procedures related to electrical troubleshooting will also be covered. <i>(Prerequisite: IET 101)</i>
IET 101	Introduction to Automotive & Diesel Electronics 3 This course will provide the student with an introduction to DC electric principles and the different electronic devices seen in modern diesel and automotive vehicles. It will explain instruments and procedures used in testing and measuring these devices.

Biomedical Equipment Technology



This course prepares students with skills labeled by the Commonwealth of Pennsylvania as those used in traditional or evolving green occupations

Course No.	Course Title	Credits
EET 111 	DC Electricity and Instrumentation/Lab This course introduces the student to the theory and operation of basic DC circuits, circuit construction, operation and troubleshooting. Basic alternative energy technologies are introduced. The student will also gain practical experience in soldering, digital multi-meter usage, and Ohm's Law applications for testing and troubleshooting electric circuits. Elements of proper disposal of batteries and other circuit components considered to be hazardous waste are included.	3
EET 112 	Alternating Current and Passive Devices/Lab This course introduces the student to circuitry basic to AC electrical theory. It identifies the fundamental differences between AC and DC energy sources and circuit components. It also introduces oscilloscope usage, AC units, nomenclature and electromagnetism. The course will also cover inductors, transformers, and capacitors and their effects in AC circuits. Work place energy efficiency and conservation habits are included. The concepts of RCL circuits and their use as passive filters will be covered.	3
EET 113 	Introduction to Semiconductors/Lab This course provides an introduction to semiconductor theory, the different types of semiconductor components, their symbols, characteristics, and uses. Basic power supplies, small signal amplifiers, large signal amplifiers and coupling techniques are covered. This course will concentrate on characteristic waveforms, theory and troubleshooting. Practice is provided regarding diodes, transistors and circuit applications. Sustainable practices to minimize resources and chemical use are an integral part of the course. (Prerequisite: EET 111, EET 112 or instructor's approval*)	3
EET 114	Integrated Circuits and Thyristors/Lab This course provides an introduction to integrated circuits through the operational amplifier, its characteristics and configurations. Amplifier troubleshooting is included, highlighting methods of determining causes	3

of failures and locating problems. This study of integrated circuits will continue by investigating the operation of integrated voltage regulators and the 555 universal timer. The thyristors family of electronic components is introduced through lecture and experimentation to identify the characteristics, circuitry, and methods of troubleshooting this family of components.

(Prerequisite: EET 111, EET 112 or instructor's approval)*

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| EET 115 | Digital Electronics I/Lab | 3 |
| | <p>This course begins by familiarizing the student with the fundamental gates, numbering systems and simplification techniques used for the implementation of digital circuitry. It continues by discussing different IC specifications and interfacing problems found between different families of digital logic. The later portion of the course studies the different digital codes, seven segment displays and flip-flops with emphasis placed throughout the course on schematic interpretation, nomenclature and troubleshooting. Complex programmable logic devices are discussed throughout this course.</p> | |
| EET 106 | Digital Electronics II/Lab | 4 |
| | <p>This course continues the study of digital electronics through the investigation of the circuits used for counters, registers, arithmetic logic circuits and digital to analog interfacing. It examines the circuitry of each section with emphasis on circuit timing, characteristic waveforms and troubleshooting. Throughout this course the student will build and troubleshoot circuits used as the basis of modern digital machines.</p> <p><i>(Prerequisite: EET 115 or instructor's approval*)</i></p> | |
| BET 201 | Medical Equipment Standards and Testing/Lab | 4 |
| | <p>The student learns the requirements and methods of current standards of the Biomedical industry, also known as Healthcare Technology Management (HTM). Students are introduced to the hierarchy of statutes, regulations, standards including accreditation standards, and hospital policies for healthcare equipment management and safety. Students perform extensive equipment testing to verify conformance with national standards and manufacturer's specifications. Students learn standard practices for electrical safety testing, HTM and medical ethics as they pertain to the Biomedical Technician. Equipment management principles that maximize life span and minimize life-cycle costs are stressed. Sustainable practices to minimize resource and chemical use are also emphasized.</p> | |

BET 203	Physiological Monitoring Devices/Lab 4 The beginning of this course is an explanation of the types of hazards encountered in the hospital environment and the role of the BMET in controlling them. It continues by discussing the different types of transducers and electrodes used with biomedical equipment. The course concludes by examining ECG and pressure monitors, concentrating on the test equipment used to test and verify accuracy.
BET 204	Life Support Systems/Lab 4 This course is an overview of the types of medical equipment needed to support patients with life threatening problems. Examples of such equipment are defibrillators, pacemakers, ventilators and hemodialysis units. The function of each type of equipment is discussed. Some pieces of equipment are examined thoroughly in relation to functional testing, preventive maintenance, parts identification, and description of circuits. <i>(Prerequisite: EET 106)</i>
BET 207	Internship 4 Students work for 200 hours in a health care facility or medical equipment repair facility after completing 50 credit hours, having a cumulative GPA of 2.00, and meeting all other program prerequisites and academic requirements prior to their final spring semester. The internship offers students applied healthcare technology management and service experience. In the internship, the student performs preventive maintenance, safety analysis, and minor repairs on selected pieces of medical equipment. Students are expected to adhere to all policies and regulations associated with their internship facility. The schedule for meeting the requirement of this experience will be arranged between the student, faculty member and internship site. (No compensation) <i>(200 hours) (Prerequisite: EET 106)</i>
BET 208	Cooperative Educational Experience 4 Students work for 200 hours in a health care facility or medical equipment repair facility after completing 50 credit hours, having a cumulative GPA of 2.00, and having met all other program academic requirements prior to their final spring semester. The internship offers students applied Healthcare Technology Management and service experience. In the internship, the student performs preventive maintenance, safety analysis, and minor repairs on selected pieces of medical equipment. Students are expected to adhere to all policies and regulations associated with their co-op facility. (Compensation) <i>(200 hours) (Prerequisite: EET 106)</i>

BET 215	Specialized Medical Systems/Lab	3
	This course describes the different types of specialized medical equipment found in the hospital environment. Lasers, x-ray, ultrasound imaging and nuclear imaging equipment are examples of the topics covered. The basic theory and function of each piece of equipment is explained with emphasis on patient and personal safety. Hands-on testing of ultrasound and x-ray imaging systems are performed. <i>(Prerequisite: EET 106)</i>	
CIT 163	Network Architectures, Principles, and Protocols/Lab	4
	The focus of this course includes, but is not limited to a vendor-neutral view of the knowledge and hands-on practice necessary to design, install and support the modern networking systems. This course builds the student's knowledge of network media, topologies, protocols and standards, as well as network implementation methods and support skills. This course also covers topics such as safety, environmental issues and professionalism. Knowledge and hands-on experience gained in this course will help prepare students for the CompTIA A+ Essentials and Practical Application and Network+ certification examinations.	
PHA 201	Physiology and Anatomy	3
	The structure and functions of the human body as related to biomedical instrumentation are the subject matter covered in this course. Major body systems are discussed, followed by correlations to the physiological variables to be measured and the basic principles of instrumentation that could be used. <i>(Prerequisite: EET 106)</i>	

**Instructors approval may be given for a student to enter into a course with prerequisites if the student is able to show prior experience in the subject matter that the prerequisites provide. This approval will only be made if the instructor feels that the student will be able to be successful in the course based on the student's previous experience.*

Business Management – Logistics & Supply Chain Management Track

Course No.	Course Title	Credits
LOG 191	Basics of Supply Chain Management The basic concepts in managing the complete flow of materials in a supply chain from suppliers to customers are covered in the Basics module. This module covers manufacturing, distribution, service, and retail industries. This includes the fundamental relationships in the design, planning, execution, monitoring, and control that occur. Coursework is intended to prepare students for the first APICS Certification exam.	3
LOG 192	Transportation Management Past, present, and future trends in product movement to and from the product's origin are reviewed. Time and cost of various transporters and routes are discussed. Government regulation for safe product handling is covered. (<i>Prerequisite:</i> LOG 191)	3
LOG 194	Warehousing and Distribution This course covers all aspects of the supply and distribution chain and management including computer operations, bar codes, resupply, storage, handling, and subcontracting. An overview of the use of industry specific programs is also covered. Materials handling and OSHA requirements will be covered. (<i>Prerequisite:</i> LOG 191)	3
LOG 195	Product and Inventory Control Master Planning of Resources and Detailed Scheduling and Planning are covered in this course. The course will explore demand management, sales and operations planning, master scheduling, and distribution planning. The effects of techniques such as MRP, CRP, lean, TOC, will also be covered. Coursework is intended to prepare students for the second and third APICS Certification exams. In addition, standard measurements for inventory and materials will be examined. (<i>Prerequisite:</i> LOG 191)	3
LOG 291	Total Quality Management This course focuses on the development of efficient product management from production to customer relations. Various manufacturing processes are evaluated and the importance of employee input is stressed. Products are followed for quality control beyond	3

production to purchase and warranty. Methodologies like Lean and Six Sigma will be addressed. (*Prerequisites:* BUS 101, MAT 121)

- LOG 294 International Logistics 3**
This course examines the policies and procedures used in the global transfer of materials and products. Consideration of cultures, manpower, geography, politics, natural resources, and communication are introduced, and strategic planning is coordinated to meet the requirements of international trade.
(*Prerequisites:* LOG 194, LOG 195)
- LOG 297 Internship 4**
This is a planned and supervised off-campus experience in the workplace. It may be paid or unpaid. A selection of acceptable work sites and situations is offered to give students exposure to schedules, pressures, and responsibilities that are encountered in the world of work. Students are placed into a contracted facility after completing 45 credit hours and having a 2.00 GPA. With the approval of the program advisor, students can petition to enroll in an internship after completion of 30 credits. The schedule for meeting the requirement of this experience will be arranged between the student, faculty member and internship site.
- LOG 298 Cooperative Educational Experience 4**
This work experience is designed to expose the student to an industrial, commercial, or clinical environment. Students are placed into a contracted facility after completing 45 credit hours, having a 2.00 GPA, and meeting all other program prerequisites and academic requirements prior to their final spring semester. Students are expected to adhere to all policies and regulations associated with the facility. Students will work on projects selected to expose the student to “live” work situations, while building upon the student’s knowledge, skill and attitude as an entry-level technician and will be used to grade the student’s performance for the course (Compensation.) With the approval of the program advisor, students can petition to enroll in an internship after completion of 30 credits.
- LOG 299 Capstone 4**
The logistics and supply chain management capstone course is designed for students to synthesize both the theoretical and practical skills they have learned throughout the program in a capstone project using case analysis and software simulations to address supply chain

management challenges. At the completion of this course, students will have shown a thorough understanding of the tools and techniques used to successfully manage a complex network of companies.



(Prerequisite: Students must provide proof of employment to Department Chair for approval prior to registration.)

ACC 101	Accounting I 3 This introductory course covers the basic principles of accounting: the accounting equation, the accounting cycle, the trial balance, accounting worksheet, adjusting and closing entries and the preparation of basic financial statements will be covered. An emphasis will be placed on learning the basics of microcomputer accounting.
BSL 201	Business Law 3 This course is an overview of the law as it pertains to the business environment. An introduction to law, legal process, negligence and contracts, among other topics, will be reviewed. <i>(Prerequisites: BUS 101, ECO 111, MNG 185)</i>
BUS 101	Introduction to Business 3 This course includes a survey of current business practices with an examination of the topics of management, ethics, organization, finance, marketing, and human resources function. Particular attention will be paid to examining the current economic environment. Students will also learn about basic personal income, household money management and financial planning skills as well as basic economic decision-making skills. This course may also be offered in a distance education format, when available.
BUS 210	Project Management 3 Project Management explores the fundamental knowledge, terminology and processes of effective project management. Topics include project integration management, project scope, time and cost management, human resource management, communication, ethics, risk and procurement. Microsoft Project will be introduced. <i>(Prerequisite: BUS 101)</i>
ECO 211	Contemporary Issues in Macroeconomics 3 This introductory course will familiarize students with the current trends and issues surrounding the field of economics. Changes in global and national trends, with a concentration on the impact these issues have on

growth and productivity of global industries, will be examined.
(*Prerequisites:* ECO 111, BUS 101)

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| MNG 185 | Principles of Management 3
This is an introductory study of the fundamental concepts and approaches to the management of employees and production. Traditional and current organizational methods of planning, decision making, and motivating are reviewed. Emphasis is on diversity in the workforce and ethics in the business environment. This course may also be offered in a distance education format, when available. (<i>Prerequisite:</i> BUS 101) |
| MNG 284 | Management and Supervision 3
This course deals with the more complex aspects of management. Because of the needs of today's business world, students will be taught not only how to manage people but also how to manage performance, processes, and relationships. Learning to deal with pressure and constant change will be discussed. (<i>Prerequisite:</i> MNG 185) |

Business Management – Project Management Track

Course No.	Course Title	Credits
ACC 101	Accounting I This introductory course covers the basic principles of accounting: the accounting equation, the accounting cycle, the trial balance, accounting worksheet, adjusting and closing entries and the preparation of basic financial statements will be covered. An emphasis will be placed on learning the basics of microcomputer accounting.	3
ADT 220 	Building Information Modeling, Residential/Lab This course expands computer skills to include Building Information Modeling (BIM) for residential construction. This course includes basic Residential building modeling and presentation of the projects in multi-views. It contains sustainability concepts such as site orientation studies for sustainability design.	4
ADT 223 	Codes and Ordinances This course introduces students to the many regulatory agencies that govern over the drafting and design field. It emphasizes the preparation of permit information for residential projects along with commercial building regulations for the protection of public health, safety and welfare. This course explains in further detail what it means to be sustainable and what practices can be used in “Green Building” Technology.	3
BSL 201	Business Law This course is an overview of the law as it pertains to the business environment. An introduction to law, legal process, negligence and contracts, among other topics, will be reviewed. <i>(Prerequisites: BUS 101, ECO 111, MNG 185)</i>	3
BUS 101	Introduction to Business This course includes a survey of current business practices with an examination of the topics of management, ethics, organization, finance, marketing, and human resources function. Particular attention will be paid to examining the current economic environment. Students will also learn about basic personal income, household money management and financial planning skills as well as basic economic decision-making	3

skills. This course may also be offered in a distance education format, when available.

- BUS 110 Business Research and Report Writing 3**
This course focuses on the skills and techniques required to research, write and format professional business reports. Topics include locating technical specification, evaluating information, writing specifications, communicating specifications to others, formatting and presenting information. (*Prerequisite:* ENG 101)
- BUS 201 Project Management 3**
Project Management explores the fundamental knowledge, terminology and processes of effective project management. Topics include project integration management, project scope, time and cost management, human resource management, communication, ethics, risk and procurement. Microsoft Project will be introduced.
(*Prerequisite:* BUS 101)
- BUS 210 Sales Negotiation and Customer Relationship 3**
This course will enable the student to communicate with prospective internal and external customers to understand their needs, match those needs with the appropriate product or service, present an effective presentation and negotiate contracts. Through the use of terminology, practice in role-plays and an understanding of the appropriate approaches and strategies, the student will gain an understanding of the opportunities in the field of personal selling and what it takes to be successful.
- BUS 220 Advanced Project Management 3**
This course explores the management of a project using Microsoft Project 2016. Students will identify project management concepts, navigate the Project 2016 environment, create and define a new project plan, create and organize tasks, manage resources in a project plan, and finalize a project plan. (*Prerequisite:* BUS 201)
- CPT 210 Advanced Microcomputer 3**
This course provides an overview of advanced Microsoft Suite applications, including Microsoft Word, Microsoft Excel, and Microsoft Access. The course will increase business and personal productivity through the use of microcomputer applications.
(*Prerequisite:* CPT 101)

ECO 211	Contemporary Issues in Macroeconomics 3 This introductory course will familiarize students with the current trends and issues surrounding the field of economics. Changes in global and national trends, with a concentration on the impact these issues have on growth and productivity of global industries, will be examined. <i>(Prerequisites: ECO 111, BUS 101)</i>
LOG 191	Basics of Supply Chain Management 3 The basic concepts in managing the complete flow of materials in a supply chain from suppliers to customers are covered in the Basics module. This module covers manufacturing, distribution, service, and retail industries. This includes the fundamental relationships in the design, planning, execution, monitoring, and control that occur. Coursework is intended to prepare students for the first APICS Certification exam.
LOG 195	Product and Inventory Control 3 Master Planning of Resources and Detailed Scheduling and Planning are covered in this course. The course will explore demand management, sales and operations planning, master scheduling, and distribution planning. The effects of techniques such as MRP, CRP, lean, TOC, will also be covered. Coursework is intended to prepare students for the second and third APICS Certification exams. In addition, standard measurements for inventory and materials will be examined. <i>(Prerequisite: LOG 191)</i>
LOG 291	Total Quality Management 3 This course focuses on the development of efficient product management from production to customer relations. Various manufacturing processes are evaluated and the importance of employee input is stressed. Products are followed for quality control beyond production to purchase and warranty. Methodologies like Lean and Six Sigma will be addressed. <i>(Prerequisites: BUS 101, MAT 121)</i>
MNG 185	Principles of Management 3 This is an introductory study of the fundamental concepts and approaches to the management of employees and production. Traditional and current organizational methods of planning, decision making, and motivating are reviewed. Emphasis is on diversity in the workforce and ethics in the business environment. This course may also be offered in a distance education format, when available. <i>(Prerequisite: BUS 101)</i>

MNG 284**Management and Supervision****3**

This course deals with the more complex aspects of management. Because of the needs of today's business world, students will be taught not only how to manage people but also how to manage performance, processes, and relationships. Learning to deal with pressure and constant change will be discussed. (*Prerequisite:* MNG 185)

Carpentry & Cabinetmaking Technology

Course No.	Course Title	Credits
CCM 120	Woodworking Hand and Portable Tools & Materials/Lab Classroom lecture, demonstrations, and intensive, safe use of hand and portable tools used in the carpentry/cabinetmaking field will introduce the student to woodworking. Also covered are the properties of wood and the fasteners used in the carpentry/cabinetmaking field.	3
CCM 121	Woodworking Tools and Machines/Lab The safe operations of stationary woodworking equipment are the core elements of this course. Through demonstration and guided application the student will be introduced to the safe use of the table saw, the radial arm saw, the band saw, the planer, the jointer, the overhead router, the drill press, the shaper, and the tenoner.	3
CCM 122	Kitchen & Bath Design Standards The focus of this course is in the design and types of construction of the various cabinets and counters found in a typical residential structure. It is essential that all woodworkers know the sizes, construction, and standards used in the construction industry. This course develops the skills necessary to read a set of drawings to either construct or install cabinetry.	1
CCM 123	Mathematics for Carpenters This course is an examination of basic arithmetic, (adding, subtracting, multiplying, and dividing whole numbers, decimals and fractions) as well as percent, formulas as it applies to the carpentry courses. This will also include costs, conversion of units, linear, square, cubic, and board measures.	1
CCM 124	Introduction to Print Reading and Interpretation This course is designed to introduce the students to the basics of print reading and interpretation. The areas of focus include the lines types, symbols, views, title blocks, and revisions that are encountered when dealing with industrial prints. The course is intended to give the students an understanding of industrial prints and how their information is conveyed in both diagrammatic and sentential forms.	1

CCM 125	Cabinet Shop Drawing Fundamentals	1
	This course is designed to introduce the students to the various aspects of cabinetmaking, and how to transfer the necessary information to the cabinetmaker through the use of industrial prints. The areas of focus include the types of cabinets, sketching of cabinets, materials and finishes used in their construction, and the design and hardware requirements that are encountered when dealing with cabinetmaking and the related prints. The course is intended to give the students an understanding of cabinetmaking and the involved prints.	
CCM 126	Interior Finishes/Lab	3
	Interior finishes is the study and practice of the common materials and procedures used for finishing the interior of a building. Students will be exposed to skills in the safe use of equipment and materials common to the construction industry. Students will be required to demonstrate knowledge of different materials and applications in the construction industry. (<i>Prerequisite:</i> CCM 121)	
CCM 127	Cabinet and Component Construction/Lab	3
	The focus of this course is the cutting of components and construction of cabinets, face frames, doors and drawers common to the cabinetmaking industry. The special operations required on specific wood working machinery and the assembly of these cabinets' components is practiced in this course. Hinges, pulls, slides and similar door and drawer hardware are also studied.	
CCM 128	Exterior Finishes/Lab	3
	Exterior finishes is the study and practice of the common materials and procedures used for finishing the exterior of a building. Students will be exposed to skills in the safe use of equipment and materials common to the construction industry. Students will be required to demonstrate knowledge of different materials, applications and estimating procedures of the various resources used in the construction industry. (<i>Prerequisite:</i> CCM 121)	
CCM 220	Residential Construction Prints	1
	This course is designed to introduce the students to the views, callouts, materials and methods that are prevalent in residential construction. The areas of focus include the creation of residential prints, sketching of details, materials and finishes used in residential construction, and related construction methods. The course is intended to give the students an understanding of residential construction prints.	

CCM 221	Site Layout & Foundations/Lab	3
	This course covers the factors needed to be considered before the start of a building project. The kind and type of footing and foundation, the use of the structure, soil and climate conditions, methods of construction, and placement of the structure on the lot are examples of subjects studied in this course. Elements of the building codes and zoning laws that apply to site layout procedures are also examined in this course. (<i>Prerequisite:</i> CCM 126)	
CCM 222	Stairs/Lab	3
	This is a course designed to teach the student the basics of stair construction. Covered during this course will be the math calculations necessary to design a safe and functional stairway and the methods of layout and construction necessary to install stairs. (<i>Prerequisite:</i> CCM 126)	
CCM 223	Floor/Wall Framing Principles/Lab	3
	This course covers the construction terminology, materials, methods and practical lessons in the various types of floor and wall framing principles found in the construction industry today. Student involvement with building codes, construction terminology, materials estimating and proper construction techniques give the student a broad knowledge of modern construction practices. (<i>Prerequisite:</i> CCM 128)	
CCM 224	Roof Framing/Lab	3
	Extensive study and practice in the framing of a common gable roof are the main elements of this course. Construction terminology, safe framing practices to follow when framing a gable roof, application of building codes, solving rafter lengths and cutting and fitting rafters are all considered. Estimating materials and roof coverings concludes this course. (<i>Prerequisite:</i> CCM 128)	
CCM 225	Advanced Roof Framing/Lab	3
	This course is designed as a study of and practice in the construction principles of the many different and complicated roof systems found in the construction industry today. Beginning with the hip roof, then the intersecting roof and special roof systems, such as an unequal slope roof system, this course offers the specialized framing skills sought in industry. (<i>Prerequisite:</i> CCM 224)	

CCM 226	Construction Estimating 3 This course is designed to introduce the students to the basics of material take off and estimating for a residential structure. The areas of focus include the footing and foundation systems, concrete flat work, the wood framing components, insulation and ventilation systems, interior and exterior finishes, cabinets and millwork. The course is intended to give the students an understanding of the cost, quantities and quality of materials needed to construct a residential structure. <i>(Prerequisite: CCM 224)</i>
CCM 227	Commercial Construction Prints 1 This course is designed to introduce the students to the views, callouts, materials and methods that are commonly used in commercial construction. The areas of focus include the reading and interpretation of commercial prints, sketching of details, materials used in commercial construction, and the design and material differences as compared to residential construction. The course is intended to give the students an understanding of commercial construction prints.
CCM 228	Construction Safety 1 This course is an industry-designed course covering safety topics specific to the construction industry. Students who successfully complete the course will earn an OSHA 10 hour card. The course is taught by a certified OSHA 10 trainer.

Computer Information Technology

Course No.	Course Title	Credits
CIT 160	Computer Hardware and Operating Systems/Lab The focus of this course includes, but is not limited to the essential skills needed to assemble, configure, repair, upgrade, optimize and perform preventative maintenance on personal computer hardware and operating systems. This course also covers topics such as safety and environmental issues, as well as communication and professionalism. Knowledge and hands-on experience gained in this course will help prepare students for the CompTIA A+ Essentials and Practical Application certification examinations.	4
CIT 163	Network Architectures, Principles, and Protocols/Lab The focus of this course includes, but is not limited to a vendor-neutral view of the knowledge and hands-on practice necessary to design, install and support the modern networking systems. This course builds the student's knowledge of network media, topologies, protocols and standards, as well as network implementation methods and support skills. This course also covers topics such as safety, environmental issues and professionalism. Knowledge and hands-on experience gained in this course will help prepare students for the CompTIA Network + and CompTIA A+ Essentials.	4
CIT 164	TCP/IP Network Design Configuration and Maintenance/Lab The focus of this course includes basic and advanced concepts of network and computer addressing with TCP/IP, both v4 and v6. This course provides the foundational information needed for network design, management, maintenance and support. Students will learn to install, configure and support TCP/IP on both Microsoft and Linux based networks, as well as install and support TCP/IP applications and services. Knowledge and hands-on experience gained in this course will help prepare students for the CompTIA A+ Essentials and Practical Application certification examinations, as well as many Cisco certification examinations.	4
CIT 166	Linux Networking Service and Support/Lab The focus of this course includes the exploration of tools, techniques, procedures and utilities necessary to design, implement and support a Linux-based Local Area Network. The coursework includes comprehensive details of potential areas of network and system	4

configuration, troubleshooting, performance monitoring, debugging and writing shell scripts for the purpose of performance monitoring and troubleshooting in a Linux environment will be covered in depth. Knowledge and hands-on experience gained in this course will help prepare students for the CompTIA Linux +.

CIT 175

Information System Security Design and Administration/Lab 3

The focus of this course includes theory and hands-on experience necessary to pass the Certified Information Systems Security Professional (CISSP) certification examination. Students will learn to design and implement a secure and reliable Local Area Network environment. The administration of both Windows and Linux users, groups and their permissions within the network environment, as well as drafting many relevant IT security policy statements, physical security of a network environment will be covered in depth. Students will also begin to prepare a Disaster Recovery plan for a sustainable & secure network environment; students will use this to begin building their own unique portfolio. Knowledge and hands-on experience gained in this course will help prepare students for the CompTIA A+ Essentials and Practical Application certification examinations, as well as many Cisco certification examinations.

CIT 261

LAN/WAN Design and Maintenance Principles/Lab 4

The focus of this course includes the exploration of factors essential to effective Local and Wide Area Network designs, implementation and maintenance. Students will explore the installation, configuration, and support of Cisco and open source technologies in both LAN and WAN routed environments. Students will also learn to diagnose and resolve unexpected LAN/WAN related problems. The design, implementation and maintenance of VLANs will also be covered. Knowledge and hands-on experience gained in this course will help prepare students for the Cisco CCNA ICND1 examination.

CIT 266

Internetworking Applications/Lab 4

The focus of this course includes, but is not limited to an application of systems theory and hands-on experience gained throughout the program's previous courses. Students will work in teams while using project-based learning to master both old and new concepts of network design, implementation, and support.

(Prerequisites: CIT 163, CIT 164, CIT 261, MAT 101, DAT 201, PRG 101)

CIT 267	Internship	4
	This work experience is designed to expose the student to an industrial, commercial, or clinical environment. Students are placed into a contracted facility after completing 30 credit hours, maintaining a 2.00 GPA, and meeting all other program prerequisites and academic requirements prior to their final spring semester. The schedule for meeting the requirement of this experience will be arranged between the student, faculty member and internship site. (No Compensation) (200 Hours)	
CIT 268	Cooperative Educational Experience	4
	This work experience is designed to expose students to an industrial, commercial, or clinical environment. Students are placed into a contracted facility after completing 30 credit hours, having a 2.00 GPA, and meeting all other program prerequisites and academic requirements prior to their final spring semester. Students are expected to adhere to all policies and regulations associated with the facility. Students will work on projects selected to expose the student to “live” work situations, while building upon the student’s knowledge, skill and attitude as an entry-level technician and will be used to grade the student’s performance for the course. (Compensation) (200 Hours)	
CIT 270	Web Programming, Client Side Scripting/Lab	3
	The focus of this course includes but is not limited to the knowledge and techniques necessary to author industry standard web pages using HTML, XML, CSS, and Java script. Students will analyze problems and develop solutions for a typical company web page, as well as the web pages installation and support on both Windows Internet Information Server and Linux Apache Web Server platforms. Students will also be exposed to basic techniques used to resolve database issues.	
CIT 271	Web Programming, Server Side Scripting/Lab	3
	The focus of this course includes, but is not limited to an introduction to server-side scripting and web data access using a currently popular server side application platform and relational database.	
CIT 272	Server and Network Operating System Principles/Lab	3
	The focus of this course includes the theory and hands-on experience related to both on-site and remote service and support network servers.	

Coursework includes the interconnection of multiple servers with diverse network operating systems, as well as multiple workstations with diverse operating systems in a multiple VLAN environment.





- CIT 273 Advanced Network Operating System Principles/Lab 3**
The focus of this course includes advanced principles and hands-on experience related to industry standard server Network Operating System platforms and server virtualization. Installation, configuration and remote administration of both Host Network Operating Systems and Guest Network Operating Systems will be covered in detail. Techniques relating to service and support of both Microsoft and Linux based server platforms, as well as e-mail platforms Microsoft Internet Information Server and Apache Web server will also be covered in detail. The practical use of various server software and the issues encountered during the integration of a company DMZ with a typical company intranet and the Internet will be covered.
- BUS 201 Project Management 3**
Project Management explores the fundamental knowledge, terminology and processes of effective project management. Topics include project integration management, project scope, time and cost management, human resource management, communication, ethics, risk and procurement. Microsoft Project will be introduced.
(Prerequisite: CPT 101)
- PRG 101 Programming for the Enterprise 3**
This introductory programming course is required for Computer Information Technology students. Topics include introductory programming concepts, procedures and functions, object-oriented programming design and implementation, and problem-solving skills. The course focuses on Visual Basic and Hypertext Markup Language (HTML) in a lab environment.

Diesel Truck Technology



This course prepares students with skills labeled by the Commonwealth of Pennsylvania as those used in traditional or evolving green occupations

Course No.	Course Title	Credits
VMR 141	Introduction to Vehicle Maintenance & Repair Technology/Lab This course covers information on hand tools, machines, and equipment common to the Vehicle maintenance field, general service procedures, lubricants, reference manuals, pre-delivery inspection of new and used vehicles and preventive maintenance procedures. High priority tasks recommended by ASE (Automotive Service Excellence) are covered. This will prepare students to take the ASE technician certification test.	3
VMR 142	Brake Systems/Lab This course covers information on hydraulic and air brake systems. Mechanical foundation, air supply, service system principles, major components, parking brake systems, brake system diagnostics, service to drum brake assemblies, air lines and hoses, brake switches, antilock brake principles and service are all a part of this course. High priority tasks recommended by ASE (Automotive Service Excellence) are covered. This will prepare students to take the ASE technician certification test.	3
VMR 143	Steering and Suspension Systems/Lab This course covers information on steering and suspension systems, theory and principles, independent suspensions, geometric principles, factors affecting wheel alignment, tools and equipment used for steering and suspension, troubleshooting of suspension and steering, wheel bearings service, manual steering and power steering system operation. High priority tasks recommended by ASE (Automotive Service Excellence) are covered. This will prepare students to take the ASE technician certification test.	3
VMR 144	Electrical & Electronic Systems/Lab This course covers information on electricity, basic electrical circuits, tools and equipment, batteries, charging systems, starting systems, lighting systems, horn, wipers and washers, cooling fans, instrument circuits and body electrical systems. High priority tasks recommended by ASE (Automotive Service Excellence) are covered. This will prepare students to take the ASE technician certification test.	3

- VMR 245**  **HVAC Vehicle Systems/Lab** **3**
This course covers information on the operation of heating and air conditioning as applied to today's cars and trucks. New learning experiences in the troubleshooting and servicing of these systems are taught. High priority tasks recommended by ASE (Automotive Service Excellence) are covered. This will prepare students to take the ASE technician certification test.
- DTT 146**  **Diesel Engine Overhaul/Lab** **4**
Diesel engine principles of operation on four- and two-stroke engines are covered. Component identification, measurement and replacement, along with complete tear down and overhaul procedures are covered in this course. High priority tasks recommended by ASE (Automotive Service Excellence) are covered. This will prepare students to take the ASE technician certification test.
- DTT 155**  **Diesel Fuel Injection Systems/Lab** **3**
This course covers information on the theory and operation of the different types of diesel fuel injection pumps, nozzles and injectors, including current electronic fuel injectors. In-depth study of fuel system preventive maintenance, troubleshooting diagnostics, injection pump timing and installation procedures, and replacement methods for injectors and nozzles are taught. High priority tasks recommended by ASE (Automotive Service Excellence) are covered. This will prepare students to take the ASE technician certification test.
- DTT 241**  **Diesel Engine Tune-up Procedures/Lab** **4**
This course covers information and practical experience on the operation and approved servicing, troubleshooting, and tune-up procedures on several different current models of diesel engines. High priority tasks recommended by ASE (Automotive Service Excellence) are covered. This will prepare students to take the ASE technician certification test.
- DTT 252** **Manual Transmission Overhaul/Lab** **3**
This course covers the information and service experience in truck manual transmissions. New learning experiences include inspection, replacement, servicing, rebuild procedures, proper diagnostics of manual transmissions and power take-off systems. High priority tasks recommended by ASE (Automotive Service Excellence) are covered. This will prepare students to take the ASE technician certification test.

all other program prerequisites and academic requirements prior to their final spring semester. Students are expected to adhere to all policies and regulations associated with the facility. Students will work on projects selected to expose the student to “live” work situations, while building upon the student’s knowledge, skill and attitude as an entry-level technician and will be used to grade the student’s performance for the course. (Compensation) (200 Hours)

IET 101	Introduction to Automotive & Diesel Electronics	3
	This course will provide the student with an introduction to DC electric principles and the different electronic devices seen in modern diesel and automotive vehicles. It will explain instruments and procedures used in testing and measuring these devices.	

Electrical Construction & Maintenance Technology

Course No.	Course Title	Credits
ECM 121	Fundamentals of Electricity/Lab This course covers general safety principles, basic construction guidelines, laws governing electricity, basic hand tool usage, print reading, electrical safety, circuit construction and operation. This course will also begin to outline use and interpretation of the National Electrical Code (NEC).	3
ECM 122	Introduction to Residential Wiring/Lab This course will provide information on conductor ratings, wiring styles, grounding, and practical experience in basic residential electrical wiring. DC circuit theory will be introduced in this course.	3
ECM 123	Principles & Applied Practices of Residential Wiring/Lab This course is a continuation of Introduction to Residential Wiring with advanced practical experience in lighting branch circuits and special purpose circuits. DC circuit theory will continue to be discussed in this course. (<i>Prerequisite:</i> ECM 121)	3
ECM 124	Advanced Residential Circuit Installation/Lab This course will teach advanced residential wiring. In addition to practical application, examination of skills, troubleshooting, and the maintenance and repair of electrical circuits, the course will cover NEC requirements and installation of residential electrical services. AC circuit theory will be introduced in this course. (<i>Prerequisites:</i> ECM 121, ECM 122)	3
ECM 125	Service Installation & Troubleshooting/Lab This course is a continuation of electrical residential wiring. The focus of the practical experience and problem solving skills are in panel board selection, electric service, and overcurrent protection such as fuses and circuit breakers, as well as low voltage lighting and cooling systems. AC circuit theory will continue to be discussed in this course. (<i>Prerequisite:</i> ECM 121)	3
ECM 126	Commercial Wiring/Lab This course provides information and practical experience in installation of electrical systems for commercial buildings, reading architectural drawings, and branch circuit feeders and installation, as well as	3

appliance and special systems found in commercial buildings. Students receive practical experience in conduit bending. Three phase circuits and inductive loads will be covered in this course.

- ECM 221 Industrial Motor Control/Lab 3**
This course will introduce the basic principles and practices of motor control pertaining to magnetism, AC/DC contactors and motor starters, time delay and control devices, motor types and motor theory. *(Prerequisite: ECM 121)*
- ECM 222 Advanced Motor Control Circuits/Lab 3**
This course is a continuation of theory and practice in reversing motor circuits, power distribution systems, solid-state electronic control devices, electro-mechanical relays, reduced voltage and accelerating/decelerating methods. Also covered is an introduction to programmable logic controller (PLC) wiring and programming. *(Prerequisite: ECM 221)*
- ECM 224 Industrial Maintenance I/Lab 3**
This course covers the theory and practice of industrial mechanics including calculations, rigging, lifting, ladders, hydraulics, lubrication, flexible belt drive systems, vibration and alignment.
- ECM 225 Industrial Maintenance II/Lab 3**
This course covers the service and repair principles and practices for industrial electrical systems, industrial electronic devices, programmable controllers, welding, boilers, HVAC, mechanical and pneumatic and fluid power systems. *(Prerequisite: ECM 224)*
- ECM 206 Applied Practice and Special Topics/Lab 4**
This course provides the opportunity to integrate all theory and practical experiences learned in previous modules. It is intended to be student project based which will prepare students for an entry-level position. In addition, special topics such as high voltage will be introduced to further enhance their problem-solving and practical skills.
- ECM 207 Internship 4**
This work experience is designed to expose the student to an industrial, commercial, or clinical environment. Students are placed into a contracted facility after completing 30 credit hours, having a 2.00 GPA, and meeting all other program prerequisites and academic requirements prior to their final spring semester. Students are expected to adhere to all

policies and regulations associated with the facility. Students will work on projects selected to expose the student to “live” work situations, while building upon the student’s knowledge, skill and attitude as an entry-level technician and will be used to grade the student’s performance for the course. The schedule for meeting the requirement of this experience will be arranged between the student, faculty member and internship site. (200 Hours) (*No compensation*)

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| ECM 208 | Cooperative Educational Experience | 4 |
| | This work experience is designed to expose the student to an industrial, commercial, or clinical environment. Students are placed into a contracted facility after completing 30 credit hours, having a 2.00 GPA, and meeting all other program prerequisites and academic requirements prior to their final spring semester. Students are expected to adhere to all policies and regulations associated with the facility. Students will work on projects selected to expose the student to “live” work situations, while building upon the student’s knowledge, skill and attitude as an entry level technician and will be used to grade the student’s performance for the course. (200 Hours) (<i>Compensation</i>) | |
| AMT 221 | Programmable Logic Controllers/Lab | 4 |
| | This course begins with an introduction to programmable logic controllers (PLCs), their uses and configurations. The course continues with an examination of the different types of hardware devices that are used in conjunction with PLCs. This course will cover the programming of PLCs from the simple relay logic functions to advanced functions used in PLCs. An emphasis is placed on programming projects throughout the course. | |
| CCM 220 | Residential Construction Prints | 1 |
| | This course is designed to introduce the students to the views, callouts, materials and methods that are prevalent in residential construction. The areas of focus include the creation of residential prints, sketching of details, materials and finishes used in residential construction, and related construction methods. The course is intended to give the students an understanding of residential construction prints. | |
| CCM 227 | Commercial Construction Prints | 1 |
| | This course is designed to introduce the students to the views, callouts, materials and methods that are commonly used in commercial construction. The areas of focus include the reading and interpretation of commercial prints, sketching of details, materials used in commercial | |

construction, and the design and material differences as compared to residential construction. The course is intended to give the students an understanding of commercial construction prints.

CCM 228

Construction Safety




1

This course is an industry-designed course covering safety topics specific to the construction industry. Students who successfully complete the course will earn an OSHA 10 hour card. The course is taught by a certified OSHA 10 trainer.

Electronic Engineering Technology



This course prepares students with skills labeled by the Commonwealth of Pennsylvania as those used in traditional or evolving green occupations.

Course No.	Course Title	Credits
EET 111 	DC Electricity and Instrumentation/Lab This course introduces the student to the theory and operation of basic DC circuits, circuit construction, operation and troubleshooting. Basic alternative energy technologies are introduced. The student will also gain practical experience in soldering, digital multi-meter usage, and Ohm's Law applications for testing and troubleshooting electric circuits. Elements of proper disposal of batteries and other circuit components considered to be hazardous waste are included.	3
EET 112 	Alternating Current and Passive Devices/Lab This course introduces the student to circuitry basic to AC electrical theory. It identifies the fundamental differences between AC and DC energy sources and circuit components. It also introduces oscilloscope usage, AC units, nomenclature and electromagnetism. The course will also cover inductors, transformers, and capacitors and their effects in AC circuits. Work place energy efficiency and conservation habits are included. The concepts of RCL circuits and their use as passive filters will be covered.	3
EET 113 	Introduction to Semiconductors/Lab This course provides an introduction to semiconductor theory, the different types of semiconductor components, their symbols, characteristics, and uses. Basic power supplies, small signal amplifiers, large signal amplifiers and coupling techniques are covered. This course will concentrate on characteristic waveforms, theory and troubleshooting. Practice is provided regarding diodes, transistors and circuit applications. Sustainable practices to minimize resources and chemical use are an integral part of the course. (Prerequisites: EET 111 and EET 112 or instructor's approval*)	3

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| EET 114 | <p>Integrated Circuits and Thyristors/Lab 3</p> <p>This course provides an introduction to integrated circuits through the operational amplifier, its characteristics and configurations. Amplifier troubleshooting is included, highlighting methods of determining causes of failures and locating problems. This study of integrated circuits will continue by investigating the operation of integrated voltage regulators and the 555 universal timer. The thyristors family of electronic components is introduced through lecture and experimentation to identify the characteristics, circuitry, and methods of troubleshooting this family of components.</p> <p><i>(Prerequisites: EET 111 and EET 112 or instructor's approval*)</i></p> |
| EET 115 | <p>Digital Electronics I/Lab 3</p> <p>This course begins by familiarizing the student with the fundamental gates, numbering systems and simplification techniques used for the implementation of digital circuitry. It continues by discussing different IC specifications and interfacing problems found between different families of digital logic. The later portion of the course studies the different digital codes, seven segment displays and flip-flops with emphasis placed throughout the course on schematic interpretation, nomenclature and troubleshooting. Complex programmable logic devices are discussed throughout this course.</p> |
| EET 106 | <p>Digital Electronics II/Lab 4</p> <p>This course continues the study of digital electronics through the investigation of the circuits used for counters, registers, arithmetic logic circuits and digital to analog interfacing. It examines the circuitry of each section with emphasis on circuit timing, characteristic waveforms and troubleshooting. Throughout this course the student will build and troubleshoot circuits used as the basis of modern digital machines.</p> <p><i>(Prerequisite: EET 115 or instructor's approval*)</i></p> |
| EET 206 | <p>Applied Electronics Principles & Application/Lab 4</p> <p>This course is intended to provide practical electronic projects and procedures to principles and theories learned over the previous modules. Students will be expected to hone their practical skills to better prepare them for an entry-level position upon graduation. Associate theory will be discussed to enhance the student's practical abilities.</p> <p><i>(Prerequisites: EET 213, AMT 221 & BRT 105 or instructor's approval*)</i></p> |

EET 207	Internship 4 This work experience is designed to expose the student to an industrial, commercial, or clinical environment. Students are placed into a contracted facility after completing 30 credit hours, having a 2.00 GPA, and meeting all other program prerequisites and academic requirements prior to their final spring semester. Students are expected to adhere to all policies and regulations associated with the facility. Students will work on projects selected to expose the student to “live” work situations, while building upon the student’s knowledge, skill and attitude as an entry-level technician and will be used to grade the student’s performance for the course. The schedule for meeting the requirement of this experience will be arranged between the student, faculty member and internship site. (No compensation) (<i>200 hours</i>)
EET 208	Cooperative Educational Experience 4 This work experience is designed to expose the student to an industrial, commercial, or clinical environment. Students are placed into a contracted facility after completing 30 credit hours, having a 2.00 GPA, and meeting all other program prerequisites and academic requirements prior to their final spring semester. Students are expected to adhere to all policies and regulations associated with the facility. Students will work on projects selected to expose the student to “live” work situations, while building upon the student’s knowledge, skill and attitude as an entry-level technician and will be used to grade the student’s performance for the course. (Compensation) (<i>200 hours</i>)
EET 211	Communication Electronics I/Lab 3 This course begins by familiarizing the student with the fundamental theory, safety, circuits and test equipment used in communications. The course continues to cover modulation techniques, transmitters, receivers, transmission lines and antennas. Construction, safety and testing of communication circuits are an integral part of this course. <i>(Prerequisites: EET 106, EET 112, and EET 113, or instructor’s approval*)</i>
EET 213	Industrial Electronics/Lab 3 This course begins with a study of industrial solid state and logic devices and compares these devices to the standard devices used for small scale electronics. The course continues with a comparison between digital logic and relay logic. The issues of power control and triggering circuits are examined with the use of power transistors, thyristors and associated circuitry. The course concludes with a study of sensors, transducers,

output devices and an introduction to control topologies. Safety and troubleshooting are emphasized throughout the course.

(Prerequisites: EET 114 & EET 106 or instructor's approval)*

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| AMT 221 | Programmable Logic Controllers/Lab 4 <p>This course is designed to introduce the student to modern programmable logic controllers through theory and hands on experiments with the CompactLogix Programmable Automation Controllers (PAC's). The student will investigate the setup, configuration, programming, and implementation of the controllers through lab exercises designed to have the student build a system from beginning to end. The course then continues with an examination of the different types of hardware devices that are used in conjunction with PAC's. An emphasis is placed on programming projects throughout the course.</p> |
| AMT 223 | Automation and Robotics/Lab 3 <p>This course begins with a study of the terminology for automated and robotic systems. Then the students will work with the classifications, coordinate systems, and physical makeup of a robotic system. This course continues with an examination of the power systems, lifting capacities and applications for automation and robots. An investigation of sensors, vision, artificial intelligence, the principles and techniques involved in working with robotics. Safety is emphasized throughout the course.
<i>(Prerequisite: AMT 221 or instructor's approval*)</i></p> |
| BRT 105 | Blueprint/Schematic Reading 3 <p>This course conveys to the students an understanding of the procedures for reading and interpreting industrial prints. The course includes related peripheral information that will enhance the students' understanding of the diversity that is characteristic of industrial prints. Many types of industrial prints and their applications will be covered during this course.</p> |
| CIT 163 | Network Architectures, Principles, and Protocols/Lab 4 <p>The focus of this course includes, but is not limited to a vendor-neutral view of the knowledge and hands-on practice necessary to design, install and support the modern networking systems. This course builds the student's knowledge of network media, topologies, protocols and standards, as well as network implementation methods and support skills. This course also covers topics such as safety, environmental issues and professionalism. Knowledge and hands-on experience gained</p> |

in this course will help prepare students for the CompTIA A+ Essentials and Practical Application and Network+ certification examinations.

**Instructors approval may be given for a student to enter into a course with prerequisites if the student is able to show prior experience in the subject matter that the prerequisites provide. This approval will only be made if the instructor feels that the student will be able to be successful in the course based on the student's previous experience.*

Heating Ventilation & Air Conditioning Technology

Course No.	Course Title	Credits
HAC 151	Introduction to Refrigeration/Lab This is the first of two (2) courses in refrigeration. The course familiarizes its students with safety procedures for the use of tools and materials; basic principles of operation of compressors, condensers, and evaporators; control of systems; and performance of standard tests.	4
HAC 152	HVAC/R Electricity I/Lab This course introduces students to AC and DC circuits, interpretation of electrical schematics, use of electrical test equipment, regulation of electrical systems, and installation of electrical equipment in accordance with the National Electrical Code.	3
HAC 153	Pipefitting/Lab The fundamental tools, equipment, and procedures used in pipefitting are covered in this course. Matching system components and making proper connections are studied, planned, and practiced. Applications to domestic water distribution and hot water production will be discussed. The student will also be introduced to duct work fabrication.	3
HAC 154	Print Reading and Codes for HVAC/Lab HVAC blueprint reading is reviewed in relation to each of the curriculum's systems: heating, ventilation, air conditioning, and plumbing. The symbols and specifications pertaining to each system are explained so that they can be followed in the system's installation and repair. Overview of National Codes and Standards will be discussed.	3
HAC 155	HVAC/R Electricity II/Lab This course is a continuation to HVAC/R 152. Motor controls used in HVAC systems will be reviewed with emphasis on reading of electrical prints, wiring, and troubleshooting of these systems. (Prerequisite: HAC 152)	3
HAC 156	Air Conditioning Systems/Lab This course exposes the student to the design, operation, and installation of air conditioning systems. All of the systems' components are studied in relation to their compatibility for ventilation, air handling, and climate control. Calculation formulas are studied, appropriate systems are	4

discussed, and components are arranged to meet specifications and to comply with codes. (*Prerequisite:* HAC 151)

- HAC 222 HVAC Controls I/Lab 3**
The regulation of residential HVAC systems is the focus of this course. All HVAC controlling units from circuit breakers to thermostats are reviewed. Both operational theory and installation are covered for all controls. (*Prerequisite:* HAC 152)
- HAC 223 Hydronic Heating Systems/Lab 3**
The boilers and furnaces of forced hot-water heating systems are studied in this course, along with their distribution and return piping. The systems are evaluated for their efficiency as well as for their cost for components, installation, and operation. (*Prerequisite:* HAC 153)
- HAC 225 HVAC Controls II/Lab 3**
The regulation of large-scale, commercial HVAC systems is the focus of this course. Operational theory and compatibility of controls to specific systems are the course's main concentration. Both electric and computer controls are integrated into single and multi-zone air-handling systems. An overview of pneumatic controls will be discussed. (*Prerequisite:* HAC 222)
- HAC 251 Heating Systems Design and Installation/Lab 4**
The study of gas, fuel oil, electric, and coal heating systems includes the calculation of heat requirements, production, circulation, and loss. Various boiler units and their related accessories are evaluated for fuel choice, efficiency, and installation. Heating needs within a variety of climate zones and formulas to calculate heat loss are studied.
- HAC 254 Refrigeration Applications Commercial Systems/Lab 4**
This course stresses the refrigeration systems used to regulate air temperature, humidity, and circulation. Both stationary and mobile units are examined in a variety of large walk-in applications. Proper handling of refrigerants is stressed in accordance with federal regulations. Calibration, testing, and troubleshooting of all components are covered. Electrical, mechanical, and material safety is emphasized. (*Prerequisites:* HAC 151, HAC 156)

- HAC 256 Applied HVAC Principles and Applications/Lab 4**
This course is intended to re-examine and emphasize mechanical skills and diagnostic techniques and to apply them to principles and theories learned in previous modules. Students are expected to hone the specific skills to prepare them for entry-level positions upon graduation.
(*Prerequisites:* Must complete the first three semesters of classes)
- HAC 257 Internship 4**
This work experience is designed to expose the student to an actual industrial, commercial, or clinical environment. Students are placed into a contracted facility after they have completed 30 credit hours, have a 2.0 GPA, and have met all other program prerequisites and academic requirements prior to their final spring semester. The student is expected to adhere to all policies and regulations associated with their work term facility. Students will work on projects selected to expose the student to “live” work situations, while building upon the student’s knowledge, skill and attitude as an entry-level technician and will be used to grade the student’s performance for the course. The schedule for meeting the requirement of this experience will be arranged between the student, faculty member and internship site. (No compensation.) (200 hours)
- HAC 258 Cooperative Educational Experience 4**
This work experience is designed to expose the student to an actual industrial, commercial, or clinical environment. Students are placed into a contracted facility after they have completed 30 credit hours, have a 2.0 GPA, and have met all other program prerequisites and academic requirements prior to their final spring semester. The student is expected to adhere to all policies and regulations associated with their work term facility. Students will work on projects selected to expose the student to “live” work situations, while building upon the student’s knowledge, skill and attitude as an entry-level technician and will be used to grade the student’s performance for the course. (Compensation) (200 hours)

Physical Therapist Assistant

Course No.	Course Title	Credits
PTA 103	Introduction to Physical Therapy for the Physical Therapist Assistant This course introduces the student to the physical therapy profession. Topics include history of physical therapy, the variety of physical therapy practice settings, an introduction to the Guide to PT Practice, the Code of Ethics and Standards of Ethical Conduct for the PT/PTA, the laws and regulations that oversee the profession, an introduction to principles of teaching and learning as they apply to patient instruction, the PT/PTA relationship, the PTA/patient relationship, cultural competence, patient confidentiality, and Evidence Based Practice (EBP). <i>(Prerequisites: Completion of all general education requirements.)</i>	2
PTA 110	Patient Care This course introduces students to the skills necessary to provide basic patient management during physical therapy interventions. Topics include assessing/monitoring vital signs, body mechanics, positioning and draping, ROM, bed mobility, transfer techniques, gait training, appropriate selection and use of assistive devices, wheelchair management, and documentation. <i>(Prerequisites: Completion of all general education requirements.)</i>	3
PTA 112	Physical Therapy Procedures I This course introduces students to the therapeutic use of physical agents. Students will learn about inflammation, pain, tone abnormalities, and mobility limitations and the physical agents commonly used to treat these impairments. Topics studied and applied include superficial heat, cryotherapy, ultrasound, diathermy, therapeutic massage, and basic wound care. Students will learn principles and application techniques. Students will also participate in training and certification for CPR and basic first aid. <i>(Prerequisites: Completion of all general education requirements.)</i>	2
PTA 115	Principles of Therapeutic Exercise This course introduces the PTA student to the fundamentals, techniques, and application of therapeutic exercise as it relates to the understanding and implementing the plan of care developed by the physical therapist. Topics include principles of aerobic exercise, stretching, and improving	2

muscle performance for the prevention, treatment, and management of injuries.

(Prerequisites: Completion of all general education requirements.)

- PTA 201 Pathophysiology 3**
This course addresses the processes of inflammation and healing and disease processes relevant for the PTA student and practitioner. Topics include pathologies of the immune system, cardiovascular system, respiratory system, musculoskeletal system, neurological system, integumentary system, digestive system, urinary system, and reproductive system, in addition to topics related to neoplasms, the intensive care unit, and the geriatric patient. Students will discuss the medical and pharmaceutical management of these pathologies and the effect on the provision of physical therapy services.
(Prerequisites: Completion of all general education requirements.)
- PTA 210 Applied Kinesiology 4**
This course delivers an in-depth study of the musculoskeletal system and body movement. Students will learn the principles and techniques of manual muscle testing and goniometry. Students apply biomechanical principles and muscle actions to functional human motion, with attention to applying those principles to gait and postural analysis.
(Prerequisites: Completion of all general education requirements.)
- PTA 212 Physical Therapy Procedures II 3**
This course is the continuation of PTA 112 and focuses on the therapeutic use of electrical and mechanical agents. Specific topics include, hydrotherapy, traction, compression, electrical modalities, light therapy, and ultraviolet radiation. Students will learn principles and application techniques for the agents.
(Prerequisites: Completion of all general education requirements, and PTA 103, PTA 110, PTA 112, PTA 115, PTA 201, PTA 210)
- PTA 215 Interventions in Musculoskeletal 4**
This course is an integration of previously learned material and new skills/techniques applied to the prevention, treatment, and management of injuries and conditions associated with the musculoskeletal system.
(Prerequisites: Completion of all general education requirements, and PTA 103, PTA 110, PTA 112, PTA 115, PTA 201, PTA 210)

PTA 216	Interventions in Neurology 4 This course is an introduction to neurorehabilitation for the PTA. Topics include normal movement development across the lifespan, motor control, motor learning, and neuroplasticity, along with the integration of previously learned material and new skills/techniques into the comprehensive rehabilitation of selected neurological disorders. <i>(Prerequisites:</i> Completion of all general education requirements, and PTA 103, PTA 110, PTA 112, PTA 115, PTA 201, PTA 210)
PTA 217	Topics in Rehabilitation 4 This course will explore different topics in rehabilitation including cardio/pulmonary issues, diabetes, amputations, burns, prosthetics/orthotics, gender specific issues, and vestibular issues. This course will provide the students with the opportunity to incorporate their knowledge of treatment procedures and techniques previously learned to specific populations in rehabilitation. <i>(Prerequisites:</i> Completion of all general education requirements, and PTA 103, PTA 110, PTA 112, PTA 115, PTA 201, PTA 210)
PTA 220	Career Readiness 1 This course will provide students with the tools necessary for professional development after graduation, including but not limited to resume writing, interview skills, and preparation for the NPTE for PTA's. <i>(Prerequisites:</i> Completion of all general education requirements, and PTA 103, PTA 110, PTA 112, PTA 115, PTA 201, PTA 210, & CLI 270)
PTA 250	Professional Exploration 2 The purpose of this course is to provide students with the opportunity to solve clinical problems, improve communication skills, and reinforce professional behavior and ethical practice. Students will plan, create, and share an exploratory project with their peers. <i>(Prerequisites:</i> Completion of all general education requirements, and PTA 103, PTA 110, PTA 112, PTA 115, PTA 201, PTA 210)
CLI 270	Clinical Experience I 2 This is the first of three clinical experiences that will take place during the last 3 weeks of the students' third semester in the PTA program. The focus is on the application of knowledge, skills and behaviors that the

PTA student has learned during their didactic and practical classroom work. During this affiliation, students should become comfortable with basic patient care skills. Students will have the opportunity to gain proficiency in the skills they have learned in prerequisite courses, including functional training, application of physical agents, mechanical modalities, electrotherapeutic modalities, basic wound care, and subsequent data collection. During the three weeks, students have the opportunity to participate in direct patient care under the direction and direct supervision of either a licensed physical therapist or a physical therapist and physical therapist assistant team assigned by the facility. *(Prerequisites: Completion of all general education requirements, and PTA 103, PTA 110, PTA 112, PTA 115, PTA 201, PTA 210)*

CLI 280

Clinical Experience II

5

This is the second of three clinical experiences that will take place during the first six weeks of the students' fifth semester in the PTA program. The focus is on the application of knowledge, skills and behaviors that the PTA student has learned during their didactic and practical classroom work. During the six weeks, students have the opportunity to participate in direct patient care under the direction and direct supervision of either a licensed physical therapist or a physical therapist and physical therapist assistant team assigned by the facility. At this point, students have completed all didactic coursework and should be able to apply those skills to real patient care. In addition to the basic patient care skills, students should be able to implement and progress treatment plans outlined by a physical therapist in a professional manner. *(Prerequisites: Completion of all general education requirements, and PTA 103, PTA 110, PTA 112, PTA 115, PTA 201, PTA 210, PTA 212, PTA 215, PTA 216, PTA 217, PTA 250 & CLI 270)*

CLI 290

Clinical Experience III

5

This final clinical experience will take place after **CLI 280** in the fifth semester. The focus of this final clinical experience is to prepare the PTA student to function as an entry-level PTA. During the six weeks, students have the opportunity to participate in direct patient care under the direction and direct supervision of either a licensed physical therapist or a physical therapist and physical therapist assistant team assigned by the facility. Students have completed all didactic coursework and have completed 360 hours of clinical education experience. As in **CLI 270** and **280**, students should be competent at all basic patient care skills, at following a physical therapist's plan of care and at progressing patients as appropriate. They should be independent with documentation and

with working under the rules outlined by the APTA, the state, and the specific clinic.

(Prerequisites: Completion of all general education requirements, and PTA 103, PTA 110, PTA 112, PTA 115, PTA 201, PTA 210, PTA 212, PTA 215, PTA 216, PTA 217, PTA 250 & CLI 270)

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| HAP 101 | Human Anatomy and Physiology I | 3 |
| | This course is the first semester of a medically-oriented study of the structure and function of the human body. It is designed for students specializing in health-related and science programs. Topics include basic biochemistry; basic genetics; cells; tissues; and the integumentary, skeletal, muscular, endocrine and nervous systems. Successful completion of recent high school biology and chemistry courses is highly recommended. | |
| HAP 101L | Human Anatomy & Physiology I Lab | 1 |
| | This lab is designed to enhance and reinforce topics covered in HAP 101 lecture. Topics will include body organization, cell anatomy, histology and tissues organization, the integumentary system, the skeletal system, the muscular system, and the nervous system. In addition to the lab manual, this course will utilize McGraw Hill's Anatomy and Physiology Revealed (APR) which is a computerized system that enables students to explore the human anatomy and physiology through the use of a virtual dissection, histological review, and self-paced quizzing. | |
| HAP 102 | Human Anatomy and Physiology II | 3 |
| | This course is the second semester of a medically-oriented study of the structure and function of the human body. Topics include digestive, cardiovascular, respiratory, lymphatic, immune, urinary, reproductive systems and the inclusion of anatomical topography and transverse anatomy. <i>(Prerequisites: HAP 101 & HAP 101L)</i> | |
| HAP 102L | Human Anatomy & Physiology II Lab | 1 |
| | This lab is designed to enhance and reinforce topics covered in HAP 102 lecture. Topics will include the blood and circulation, the cardiovascular system, the lymphatic system and immunity, the respiratory system, the urinary system, the reproductive system, the digestive system, and the endocrine system, as well as human development and genetics and metabolic function and nutrition. In addition to the lab manual, this course will utilize McGraw Hill's Anatomy and Physiology Revealed (APR) which is a computerized system that enables students to explore | |

the human anatomy and physiology through the use of a virtual dissection, histological review, and self-paced quizzing.

(Prerequisites: HAP 101 & HAP 101L)

MTR 100

Medical Terminology

1

This course is a survey of the terminology used routinely in the medical environment. It will begin with a learning of the common root words used in constructing medical terms and integrate commonly used medical acronyms and abbreviations. The information will be presented according to anatomical systems. The student will be responsible for knowing the written and auditory recognition of the terminology reviewed.

Radiologic Technology

Course No.	Course Title	Credits
RAD 110	Ethics/Legal for Imaging Professionals This course will review today's health care and hospital environment, accrediting bodies, and the professional ethics guiding the health worker today. Professionalism and legal implications will also be discussed. This course will also include legal doctrines and patient consent forms. The details of Quality Assurance, Quality Management, and Quality Control will also be reviewed in this course.	1
RAD 132	Radiologic Positioning I/Lab This course introduces the student to basic terminology used in radiographic positioning. The curriculum provides a comprehensive study of theory and principles of basic positions of the upper and lower extremities, bony thorax, chest and abdomen. This course is designed to develop competency through a combination of lecture and laboratory. Further practice will come in the actual clinical setting under the guidance of an assigned clinical radiographer.	4
RAD 133	Radiologic Exposures & Principles I/Lab This course is an introduction to the fundamental concepts and techniques relating to the production of x-rays. Emphasis through lecture and lab, is placed on the factors affecting an acceptable radiograph: contrast, density, recorded detail and visibility of detail. Students will display work with darkroom applications, display basic radiation protection standards, be familiar with assorted radiographic equipment.	4
RAD 138	Radiation Biology & Protection This course describes the effects of ionizing radiation on cells in the human body. Special emphasis is placed on how the effects of x-ray radiation affect biological tissue. Radiation protection and monitoring concepts will be reviewed. The student will learn the importance of applying the ALARA concept for patient and staff safety. Discussion of regulatory agencies and their involvement in radiation protection will also be included. Stochastic and Non-stochastic effects are also discussed. (<i>Prerequisites:</i> RAD 132, RAD 133, RAD 144, HAP 102)	3

- RAD 144 Patient Care/Lab 2**
 This course will provide a comprehensive study of basic concepts regarding patient care. The student will study proper body mechanics, transfer techniques, medical asepsis, communication skills with patients and co-workers, how to measure vital signs, how to deal with medical emergencies, and isolation techniques. It progresses into theory and advanced application of the clinical concepts of patient care and medical techniques in the radiology department.
- RAD 145 Radiologic Positioning II/Lab 3**
 This course is a continuation of RAD 132. The course is designed to develop competency in diagnostic procedures of the vertebral column, cranium, gastrointestinal system, biliary tract, and urinary system. Competence will be demonstrated on a weekly basis in a laboratory setting. Further practice will come in the actual clinical setting under the guidance of an assigned clinical radiographer.
(Prerequisites: RAD 132, RAD 133, RAD 144, HAP 101, HAP 102, MTR 100)
- RAD 146 Radiologic Exposures & Principles II 3**
 A continuation of RAD 133, through lecture and lab, this course is designed to acquaint students with the comprehensive analysis of the factors affecting image quality requiring integration of all exposure and technical factors previously learned. The student will learn the components, principles and operation of digital imaging systems and the factors that impact image acquisition, display, and retrieval in radiology.
(Prerequisites: RAD 132, RAD 133, RAD 144, HAP 101, MTR 100)
- RAD 147 Pharmacology and Drug Administration for Imaging Technologists 1**
 This course will discuss the use of pharmacodynamics and drug classifications; it focuses on radiopaque contrast media used in imaging procedures. Pharmacokinetics coverage describes how drugs are absorbed, metabolized, distributed, and eliminated.
 It also covers emergency procedures in response to adverse reactions to contrast media which includes crash cart procedures and drugs used to treat cardiac and/or respiratory arrest and how to administer them appropriately. It will also cover different administration routes for contrast media. *(Prerequisites: RAD 132, RAD 133, RAD 144)*

RAD 231	Radiologic Pathology 2 This course emphasizes human pathology on a gross anatomic level. Inflammatory, immunology, infections, traumatic and neoplastic processes will be emphasized. Specific diseases will be studied in further depth from an organ system approach. <i>(Prerequisites: RAD 146, RAD 145, HAP 102)</i>
RAD 233	Image Analysis 2 This course is designed to provide students with a basis for analyzing radiographic images for diagnostic purposes. Students will become acquainted with the importance of minimum imaging standards, problem solving technique for image evaluation and the factors that can affect the image quality. Students will be responsible for looking at radiographs to decide whether they are diagnostically acceptable and assure consistency in the production of quality images. <i>(Prerequisites: RAD 146, RAD 145, HAP 102)</i>
RAD 234	Advanced Exposures 2 This course is an introduction of the basic principles and techniques of digital radiology. Topics include image acquisition, display, archiving along with principles of both digital system and film quality assurance and maintenance. <i>(Prerequisites: RAD 145, RAD 146, RAD 147, PRA 132)</i>
RAD 236	Advanced Medical Imaging 2 This course familiarizes the student with the different modalities within the field of radiology. The students will explore topics in specialized areas such as CT, MRI, Nuclear Medicine, Mammography, PET, Bone Densitometry, US, and Radiation Oncology. The students will review, cross sectional anatomy, trauma radiology, myelograms, arthrograms and pediatric imaging. <i>(Prerequisites: RAD 138, RAD 234, PHY 201)</i>
RAD 237	Registry Seminar 2 This course is established to assist the student in preparing for the registry examination given by the American Registry of Radiologic Technologists (ARRT). <i>(Prerequisite: PRA 231)</i> <i>Must pass competency examination with a minimum score of 76%.)</i>
PRA 131	Clinical Practicum I 1 An introduction to the clinical radiographic experience applies radiographic theory and provides learning experiences to help the student acquire expertise and proficiency in a variety of diagnostic

radiographic procedures at specified levels of competency. Students will work on various radiographic equipment, and show competency in anatomy and physiology and radiographic positioning. Additionally, students will integrate knowledge of patient care, medical ethics and apply critical thinking skills into daily radiographic practice. Students will spend a minimum of 16 per week hours in the clinical environment. Students must have verification of current CPR certification, annual health examination, immunizations, and all current clearances required by Johnson College.

(Prerequisites: RAD 132, RAD 133, RAD 144, HAP 101)

PRA 132

Clinical Practicum II

2

A continuation of the clinical radiography experience applies radiographic theory and provides learning experiences to help the student acquire expertise and proficiency in a variety of diagnostic radiographic procedures at specified levels of competency. Students will display basic radiation protection standards, become familiar with various radiographic equipment, and show competency in anatomy and physiology as well as radiographic positioning. Additionally, students will integrate knowledge of patient care, develop critical thinking skills and medical ethics into daily radiographic practice. Students will spend a minimum of 40 hours in the clinical environment per week, which will include one weekend shift. Students must have verification of current CPR certification, annual health examination immunizations, and all current clearances required by Johnson College.

(Prerequisites: PRA 131, HAP 102, RAD 145, RAD 146, RAD 147)

PRA 231

Clinical Practicum III

1

A continuation of the clinical radiography experience applies radiographic theory and provides learning experiences to help the student acquire expertise and proficiency in a variety of diagnostic radiographic procedures at specified levels of competency. Students will work on various radiographic equipment, and show competency in anatomy and physiology and radiographic positioning. Additionally, students will integrate knowledge of patient care, develop critical thinking skills and medical ethics into daily radiographic practice. Students will spend a minimum of 16 hours per week in the clinical environment. Students must have verification of current CPR certification, annual health examination, immunizations and all current clearances required by Johnson College. *(Prerequisite: PRA 132)*

PRA 232	Clinical Practicum IV 1 The clinical radiography experience applies radiographic theory and provides learning experiences to help the student acquire expertise and proficiency in a variety of diagnostic radiographic procedures at specified levels of competency. Students will work on various radiographic equipment, and show competency in anatomy and physiology and radiographic positioning. Additionally, students will integrate knowledge of patient care, develop critical thinking skills and medical ethics into daily radiographic practice. Students will spend a minimum of 24 hours per week in the clinical environment. During this final practicum, students will be offered an optional rotation through specialized modalities. Students must have verification of current CPR certification, annual health examination, immunizations and all current clearances required by Johnson College. (<i>Prerequisite:</i> PRA 231)
HAP 101	Human Anatomy and Physiology I 3 This course is the first semester of a medically-oriented study of the structure and function of the human body. It is designed for students specializing in health-related and science programs. Topics include basic biochemistry; basic genetics; cells; tissues; and the integumentary, skeletal, muscular, endocrine and nervous systems. Successful completion of recent high school biology and chemistry courses is highly recommended.
HAP 101L	Human Anatomy & Physiology I Lab 1 This lab is designed to enhance and reinforce topics covered in HAP 101 lecture. Topics will include body organization, cell anatomy, histology and tissues organization, the integumentary system, the skeletal system, the muscular system, endocrine and the nervous system. In addition to the lab manual, this course will utilize McGraw Hill's Anatomy and Physiology Revealed (APR) which is a computerized system that enables students to explore the human anatomy and physiology through the use of a virtual dissection, histological review, and self-paced quizzing.
HAP 102	Human Anatomy and Physiology II 3 This course is the second semester of a medically-oriented study of the structure and function of the human body. Topics include digestive, cardiovascular, respiratory, lymphatic, immune, urinary, reproductive systems and the inclusion of anatomical topography and transverse anatomy. (<i>Prerequisites:</i> HAP 101 & HAP 101L.)

HAP 102L	Human Anatomy & Physiology II Lab 1 This lab is designed to enhance and reinforce topics covered in HAP 102 lecture. Topics will include the blood and circulation, the cardiovascular system, the lymphatic system and immunity, the respiratory system, the urinary system, the reproductive system, the digestive system, and the endocrine system, as well as human development and genetics and metabolic function and nutrition. In addition to the lab manual, this course will utilize McGraw Hill's Anatomy and Physiology Revealed (APR) which is a computerized system that enables students to explore the human anatomy and physiology through the use of a virtual dissection, histological review, and self-paced quizzing. <i>(Prerequisites: HAP 101 & HAP 101L.)</i>
MTR 100	Medical Terminology 1 This course is a survey of the terminology used routinely in the medical environment. It will begin with a learning of the common root words used in constructing medical terms and integrate commonly used medical acronyms and abbreviations. The information will be presented according to anatomical systems. The student will be responsible for knowing the written and auditory recognition of the terminology reviewed.
PHY 201	Imaging Physics 3 This course is structured to help the student understand the physics of radiology and the equipment used to produce x-rays, the electrical principles of x-ray production, and atomic physics. <i>(Prerequisite: C or better in MAT 101, C or better in PHY 101, or permission from the Mathematics/General Science Chair.)</i>

Veterinary Technology

Course No.	Course Title	Credits
VET 101	Introduction to Veterinary Technology/ Clinical Management This course focuses on the duties and responsibilities of veterinary technicians as well as job opportunities in the field of veterinary technology. The human-animal bond and ethical issues are introduced to the student. This course provides students with the basic understanding of operations in a clinical setting in addition to office and managerial duties of technicians such as scheduling, ordering, inventory control, teamwork dynamics, and compassion fatigue. Students are required to attend an OSHA training in order to complete clinical assignments (a certificate will be granted upon completion). Students may be required to participate in activities of the Johnson College Animal Care Center to gain hands on experience to enhance the course material.	1
VET 102	Clinical Applications for Large Animals This course introduces students to large animals (horses, cows, goats, sheep, and pigs). Students will learn about restraint and handling of large animals with an emphasis on safety. Material covered will include basic nursing care (medicating, physical exams, sample collection, as well as other routine procedures). Students will familiarize themselves with the large animal setting (farms/barns) in addition to various tools and techniques found in large animal medicine.	2
VET 102L	Clinical Applications for Large Animals Lab This lab class provides students with hands-on experience with various large animal species. Animals will vary with availability. Tetanus and rabies inoculation are required and documentation must be provided. <i>Kennel rotations are associated with this course requiring weekend animal rotations.</i>	2
VET 103	Clinical Applications for Small Animals This course provides information on skills needed to work in a clinical setting. Emphasis will be on safety, handling and restraint techniques, general patient care and assessment, and medicating small animals. The course will also concentrate on rabbits, rats, and mice.	2

- VET 103L Clinical Applications for Small Animals Lab 1**
 This lab class provides students with hands-on experience with canine, feline, and various lab animal species (rabbits, mice, rats). Animals will vary with availability. Students must provide proof of wavier or of pre-exposure for the rabies inoculation and tetanus inoculation in order to participate in the lab. NOTE: successful completion of this course requires a 76% or better score on both the Midterm and Final Laboratory Practical Exams. *Lab animal and kennel rotations are associated with this course requiring weekday and weekend rotation times.*
- VET 104 Animal Anatomy and Physiology I 3**
 This course places an emphasis on cellular anatomy and morphology, principles of histology, and microscopic anatomy of tissues. Genetics, cellular reproduction, anatomy & physiology of blood, skeletal, muscle and nervous systems will be included in this course noting specific differences between species and emphasizing clinical use. Proper terminology is utilized to describe the major organs of each system, their location and functions.
- VET 104L Animal Anatomy and Physiology Lab I 1**
 This lab course emphasizes the proper use of microscopes as well as safety in the lab. Topics will include cell morphology and histology. The skeletal system will also be covered.
- VET 105 Animal Anatomy and Physiology II 3**
 This course is a study of the anatomical and physiological systems of animals that may be encountered by the veterinary technician. It provides exposure to major anatomical and physiological systems, noting specific differences between species and emphasizing clinical use. Proper terminology is utilized to describe the major organs of each system, as well as their locations, and functions. The course will cover the following systems: nervous, integument, special senses, cardiac, respiratory, immune, alimentary, endocrine, urinary, and reproduction as well as basic avian anatomy and physiology.
(Prerequisites: VET 101, VET 104, VET 104L)

VET 105L	Animal Anatomy and Physiology Lab II 1 This lab course emphasizes anatomical study through the dissection of the cat. To help the student understand species variation, other organs will be used in the lab. <i>(Prerequisites: VET 101, VET 104, VET 104L)</i>
VET 106	Animal Husbandry/Breeds/Nutrition 2 This course introduces students to the basic care and management of common companion and farm animals as well as breeding. Various breeds of each species are highlighted as well as basic nutritional requirements. Reptile and avian species, husbandry and reproduction are covered as well. Students may be required to participate in activities of the wellness center to gain hands-on experience to enhance the course material. <i>(Prerequisite: VET 101)</i>
VET 201	Pharmacology & Anesthesia 3 This course is the study of the theory and application of pharmacology. Classifications of drugs and their usage, with specific information on mechanism of action, side effects, and dosing will be discussed. Students will be exposed to drug calculations and be expected to prepare and administer medications. This course covers dispensing medication and client instruction on how to give medications as well as educate clients on adverse reactions to medications. <i>(Prerequisites: VET 101, VET 102, VET 103, VET 104, VET 105, CHE 101, CHE 101L)</i>
VET 202	Clinical Pathology 2 This course is designed to familiarize the student with diagnostic laboratory procedures commonly performed in the veterinary field. Discussion includes clinical chemistry, veterinary hematology, urology and cytology. In addition, sample collection and handling is covered along with instrumentation and equipment maintenance. <i>(Prerequisites: VET 101, VET 102, VET 103, VET 104, VET 104L, VET 105, VET 105L)</i>
VET 202L	Clinical Pathology Lab 1 This lab is designed to enhance and reinforce lecture and/or demonstrations by allowing students the opportunity to practice a variety of laboratory tests common to veterinary medicine. Students will perform hematological analyses, clinical chemistries, and urinalysis in addition to ear and skin cytology. <i>(Prerequisites: VET 101, VET 102, VET 103, VET 104, VET 104L, VET 105, VET 105L)</i>

VET 203	Parasitology	2
	This course is the study of common internal and external parasites found in domestic and food animals. The characteristics, methods of transmission, life cycle and clinical signs commonly seen in animals will be studied including a review of safety concerns when dealing with these samples. (<i>Prerequisites:</i> VET 101, VET 104, VET 104L)	
VET 203L	Parasitology Lab	1
	This course allows students to practice sample collection, preparation and evaluation of samples for parasitologic examination. Laboratory sessions will include techniques for identifying intestinal, blood and external parasites. (<i>Prerequisites:</i> VET 101 ; VET 104, VET 104L)	
VET 204	Clinical Rotation I	1
	Each student will be assigned to specific areas within the Johnson College Animal Care Center. Areas will include radiology, lab, kennel, reception, pharmacy, and examination rooms, as well as other areas within the facility. Students will work alongside a licensed technician to hone skills learned in lecture and in labs. NOTE: successful completion of this course requires a 76% or better score on the written final exam, oral/practical exam, and instructor evaluations' of students. <i>Lab animal and kennel rotations are associated with this course requiring weekday and weekend rotation times.</i> (<i>Prerequisite: Students must have successfully completed all first year courses before clinical rotations may be taken.</i>)	
VET 205	Surgical Nursing I and Lab	2
	This course focuses on anesthesia principles and practices and standard surgical procedures. This course covers the role of a surgical technician in regards to preoperative procedures, prepping, scrubbing, assisting, and post-operative procedures, as well as client education/communication. This course includes 15 hours of laboratory time. (<i>Prerequisites:</i> VET 102, VET 102L, VET 103, VET 103L, VET 105, VET 105L)	
VET 206	Microbiology & Immunology	2
	This course will focus on providing a foundation in microbiology for veterinary technicians. A general understanding of bacterial, viral, and fungal characteristics will be covered with an emphasis on sample collection, laboratory diagnostics, treatment & prevention and client education. In addition, this course will introduce some basic concepts	

of humoral and cellular immunity, emphasizing uses in laboratory diagnostics and vaccines.

(Prerequisites: VET 101, VET 104, VET 104L)

- VET 206L Microbiology & Immunology Lab 1**
This course involves identifying bacteria common to veterinary medicine, as well as performing biochemical & other tests used to identify microorganisms. Sample collection, handling, preparation & precautions are stressed. This course also includes study in identification of certain mycoses, including dermatophytes as well as certain viral diseases. (Prerequisites: VET 101, VET 104, VET 104L)
- VET 207 Surgical Nursing II and Lab 2**
Dental procedures will be a focus of this course. Additionally, this course focuses on surgical procedures (spays and neuters as well as other common surgeries of both small and large animals) as well as ECG application and interpretation for patient monitoring. The course places special emphasis on pain management, wound management, physical therapy and other nursing care duties and responsibilities of technicians. This course includes 30 hours of lecture and 15 hours of lab. (Prerequisite: VET 106, VET 205)
- VET 208 Clinical Rotation II 1**
Each student will be assigned to specific areas within the Animal Care Center. Areas will include treatment, lab, kennel, and surgery, as well as other areas within the facility. Students will work alongside a licensed technician to hone skills learned in lecture and in labs. NOTE: successful completion of this course requires a 76% or better score on the written final exam, oral/practical exam, and instructor evaluations' of students. *Lab animal and kennel rotations are associated with this course requiring weekday and weekend rotation times. (Prerequisite: Students must have successfully completed all first year courses before clinical rotations can be taken.)*
- VET 209 Veterinary Radiology 1**
This course is a study of radiological procedures for domestic animals common to veterinary medicine. It includes an overview of radiographic properties and equipment, restraint and positioning techniques, as well as exposing, developing and assessing radiographs. Record keeping and safety issues are discussed in addition to specialized radiographic studies.

Students are provided hands-on opportunity to practice the techniques learned in class.

(Prerequisites: VET 101, VET 102, VET 102L, VET 103, VET 103L, VET 105, VET 105L)

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|-----------------|--|----------|
| VET 209L | Veterinary Radiology Lab | 1 |
| | This course provides a hands-on study of radiological procedures for domestic animals common to veterinary medicine. It encourages the practice of how to work with radiographic properties and equipment, restraint and positioning techniques, as well as exposing, developing and assessing radiographs. Appropriate record keeping and safety issues are reviewed in addition to specialized radiographic studies. Students are provided hands-on opportunity to practice the techniques learned in lecture. | |
| | (Prerequisites: VET 101, VET 102, VET 102L, VET 103, VET 103L, VET 105, VET 105L) | |
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| VET 210 | Intensive Care Applications | 3 |
| | This course is a study of the technician's role in emergency and intensive care. Students will study fluid therapy, blood transfusion, CPR and other procedures associated with emergency and critical care protocols. This course also includes 8 hours of exposure to emergencies in an emergency facility. | |
| | (Prerequisites: VET 101, VET 102, VET 102L, VET 103, VET 103L, VET 105, VET 105L) | |
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| VET 211 | Diseases and Zoonoses | 3 |
| | This course is the study of diseases affecting domestic animals. Etiology, clinical signs, diagnoses, prevention, treatments and public health issues are stressed. A study of vaccine protocols for each species is also included. | |
| | (Prerequisites: VET 101, VET 102, VET 102L, VET 103, VET 103L, VET 105, VET 105L, VET 106, VET 201, VET 206, VET 206L) | |
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| VET 212 | Internship | 4 |
| | This work experience is designed to expose the student to an industrial, commercial, or clinical environment. Students are placed into a contracted facility after completing and meeting all other program prerequisites and academic requirements prior to their final spring semester. Students are expected to adhere to all policies and regulations associated with the facility. Students will work on projects selected to expose the student to "live" work situations, while building upon the | |

student's knowledge, skill and attitude as an entry-level technician and will be used to grade the student's performance for the course. (No compensation)

Must have successfully completed all VET 1st and 2nd year courses.

VET 213

Cooperative Educational Experience

4

This work experience is designed to expose the student to an industrial, commercial, or clinical environment. Students are placed into a contracted facility after completing and meeting all other program prerequisites and academic requirements prior to their final spring semester. Students are expected to adhere to all policies and regulations associated with the facility. Students will work on projects selected to expose the student to "live" work situations, while building upon the student's knowledge, skill and attitude as an entry-level technician and will be used to grade the student's performance for the course. (Compensation)

Must have successfully completed all VET 1st and 2nd year courses.

Welding Technology

Course No.	Course Title	Credits
WTC 111	Shielded Metal Arc Welding I/Lab This course is designed to teach the student the basic safety, principles, practices, and applications of SMAW. This course covers welding trade theory including safety, tool usage, equipment set up and standard terms and definitions. Basic welding and cutting techniques in the flat and horizontal position, tank safety and welding safety will be taught. The course also covers basic metallurgy and how to identify weld problems and defects.	3
WTC 112	Gas Metal and Flux Cored Arc Welding I/Lab This course is designed to teach the student the basic principles, practices, and applications of GMAW and FCAW. This course covers gas metal arc welding and flux cored arc welding in the flat and horizontal position. Students will be given classroom theory and hands on instruction in both processes. American Welding Society weld symbols will also be covered.	3
WTC 113	Gas Tungsten Arc Welding I/Lab This course introduces students to the GTAW welding process. The equipment, consumables, practices and procedures are discussed, with extensive practice in the GTAW process in the flat and horizontal position. This course will also cover inspection tools, destructive and non-destructive testing methods and an overview of the AWS D1.1 welding code.	3
WTC 114	Shielded Metal Arc Welding II/Lab This course covers the most advanced SMAW practices. The concentration will be on vertical and overhead welding techniques conforming to the AWS structural welding code. Weld problems and corrections will be covered in this course. Open roots will be taught for the pipe welding process as well as pipe welding codes, tools, materials and equipment needed for pipe welding. (<i>Prerequisite:</i> WTC 111)	3
WTC 115	Gas Metal and Flux Cored Arc Welding II/Lab This course is designed to teach the student advanced principles, practices, and applications of GMAW and FCAW. This course covers gas metal arc welding and flux cored arc welding in the vertical and	3

overhead position. Students will be given classroom theory and hands on instruction in both processes. (*Prerequisite:* WTC 112)

- WTC 116 Gas Tungsten Arc Welding II/Lab 3**
This course is designed to teach the student advanced principles, practices, and applications of the GTAW welding process. This course covers gas metal arc welding and flux cored arc welding in the vertical and overhead position. Open roots will be taught for the pipe welding process. (*Prerequisite:* WTC 113)
- BRT 101 Blueprint Reading 3**
This course provides detailed information to help the students gain the skills that are required to read prints that are most common in the welding industry. Basic lines and view, dimensions, bill of materials and structural shapes are emphasized in this course. Accuracy of measurements and attention to detail will be stressed in the course.
- MAT 100 Applied Mathematics for Welders 3**
This course is an examination of basic arithmetic, (adding, subtracting, multiplying, and dividing whole numbers, decimals and fractions) as well as percentages. This course also covers metric system measurements, computation of geometric measure and shapes, angular development and measurement, and including bends, stretchouts, economical layout and takeoffs.
(*Students placing above 50 on the AccuPlacer Elementary Algebra test will take Math 101 with a lecture series on bends, stretchouts and economical layouts and takeoffs as scheduled by Math and General Science Department.*)

GENERAL EDUCATION COURSES

Business

Course No.	Course Title	Credits
ACC 101	Accounting I This introductory course covers the basic principles of accounting: the accounting equation, the accounting cycle, the trial balance, accounting worksheet, adjusting and closing entries and the preparation of basic financial statements will be covered. An emphasis will be placed on learning the basics of microcomputer accounting.	3
BSL 201	Business Law This course is an overview of the law as it pertains to the business environment. An introduction to law, legal process, negligence and contracts, among other topics, will be reviewed. (Prerequisites: BUS 101, ECO 111, MNG 185)	3
BUS 101	Introduction to Business This course includes a survey of current business practices with an examination of the topics of management, ethics, organization, finance, marketing, and human resources function. Particular attention will be paid to examining the current economic environment. Students will also learn about basic personal income, household money management and financial planning skills as well as basic economic decision-making skills. This course may also be offered in a distance education format, when available.	3
BUS 201	Project Management Project Management explores the fundamental knowledge, terminology and processes of effective project management. Topics include project integration management, project scope, time and cost management, human resource management, communication, ethics, risk and procurement. Microsoft Project will be introduced. (Prerequisites: CPT 101, MNG 185)	3
ECO 111	Introduction to Microeconomics This course covers the basic concepts of economics. Topics include supply and demand, optimizing economic behavior, prices and wages, monetary system, interest rates, banking system, unemployment,	3

inflation, taxes, government spending and international trade. Upon completion, students should be able to explain alternative solutions for economic problems faced by private and government sectors.

ECO 211	Contemporary Issues in Macroeconomics	3
	This introductory course will familiarize students with the current trends and issues surrounding the field of economics. Changes in global and national trends, with a concentration on the impact these issues have on growth and productivity of global industries, will be examined. <i>(Prerequisites: ECO 111, BUS 101)</i>	
ENT 101	Entrepreneurship I	3
	This course acquaints the student with a realistic approach to the problems and concerns of starting a small business. An understanding of the economic and social environment within which the small business functions will be developed. The student will be familiarized with the writing of a business plan. <i>(Prerequisite: BUS 101)</i>	
MNG 185	Principles of Management	3
	This is an introductory study of the fundamental concepts and approaches to the management of employees and production. Traditional and current organizational methods of planning, decision making, and motivating are reviewed. Emphasis is on diversity in the workforce and ethics in the business environment. This course may also be offered in a distance education format, when available. <i>(Prerequisite: BUS 101)</i>	
MNG 284	Management and Supervision	3
	This course deals with the more complex aspects of management. Students will be taught not only how to manage people but also how to manage performance, processes, and relationships. Learning to deal with stress and constant change also will be discussed. <i>(Prerequisites: MNG 185, LOG 192, LOG 195)</i>	

Computers

Course No.	Course Title	Credits
CPT 101	Microcomputer I	3
	This course provides a basic overview of microcomputer fundamentals and applications. It includes a study of word processing using Microsoft Word; spreadsheet applications using Microsoft Excel; and simple	

databases using Microsoft Access. The student is also exposed to basic computer operations, managing files, and a brief introduction to PowerPoint. This course may also be offered in a distance education format, when available.

DAT 201	Database: Principles & Applications	3
This course is designed to introduce the student to database processing by examining basic database models and applying these models to creating and managing multi-user database systems. This course uses instructor guided project based learning to become proficient with Microsoft Access and SQL Server. (<i>Prerequisite:</i> PRG 101)		

English

Course No.	Course Title	Credits
ENG 101	English Composition I	3
This course develops writing competency through the students' construction of all types of essays. Additional writing assignments include a course notebook, job resume and cover letter, sentence definitions, summaries, instructions, and technical research paper completed in Modern Language Association (MLA) style. Outlining, mechanics, syntax, and format are stressed in all writing assignments.		
ENG 211	Communication Theory	3
Specialized communication that helps readers, viewers, and/or listeners respond to the challenges of the world of technology in which we are asked to be ethically and legally responsible is studied and practiced in this course. The class content has an impact on everyday life. The four components of the course are the following: understanding communication in the workplace; acquiring the tools/strategies needed for effective workplace communication; creating effective workplace documents; and developing, maintaining, and using effective workplace communication. Throughout the course socially situated activities, collaboration, diversity, and learning aids are integrated into the course content. (<i>Prerequisite:</i> ENG 101)		
ENG 212	Public Speaking	3
Stressed in this course is the importance of oral communication for one's understanding, evaluating, explaining, and altering various occupationally related conditions. The study of the mock interview and discussions is the starting point in which students are introduced to		

group oral communication. The remaining course content includes theory and practice in the organization, preparation, delivery, and evaluation of extemporaneous discourse as used in interpersonal, small group, and public speaking situations. Each student delivers a minimum of six speeches (counted as test grades) per semester and is involved in class critiquing of all speeches delivered in class. (*Prerequisite:* ENG 101)

Humanities

Course No.	Course Title	Credits
HMN 101	Introduction to Humanities This course creates an appreciation for cultural values and differences as portrayed in music, painting, architecture, video and literature. When possible, examples that include multiple arts are studied. Diversity is stressed in all examples. This course may also be offered in a distance education format, when available.	3

Mathematics

Course No.	Course Title	Credits
MAT 101	College Algebra I and Trigonometry This course covers linear equations and inequalities, ratio and proportions, basic operations involving algebraic, polynomial and rational expressions, exponent rules and factoring, an introduction to geometry, including perimeter, area and volume, right triangle trigonometry and radian measure. (<i>Prerequisite:</i> One year of high school algebra)	3
MAT 110	Trigonometry: Investigates angles triangles, trigonometric functions and equations, radian and degree measurements, circular functions, graphs, identities, vectors, complex numbers, polar coordinates, parametric equations, and applications. (<i>Prerequisite:</i> C or better in MAT 101 or permission from the Mathematics/General Science Chair.)	3
MAT 121	Introduction to Statistics This course is intended to introduce students to the basic concepts of data collection, data analysis and statistical inference. Topics include an	3

overview of observational and experimental study designs, graphical and numerical descriptive statistics, probability distributions for simple experiments and random variables, sampling distributions, confidence intervals and hypothesis testing for the mean and proportion in the one sample case. The emphasis is on developing statistical reasoning skills and concepts. This course may also be offered in a distance education format, when available. (*Prerequisite:* Permission from the Mathematics/General Science Chair required)

- MAT 201 College Algebra II and Trigonometry 3**
This course covers systems of equations, solutions to quadratic and higher degree equations, roots and radicals, and oblique triangles. (*Prerequisite:* C or better in MAT 101, grade of B- or better on Entrance/Placement exam (80 on AccuPlacer and/or department created exam) or permission from the Mathematics/General Science Chair.)
- MAT 202 Pre-calculus 3**
The course investigates fundamentals of plane analytical geometry, conic sections, complex numbers and polynomial, rational, exponential, logarithmic, and trigonometric functions. (*Prerequisite:* C or better in MAT 201, score of 108 or above on AccuPlacer and/or department created exam) or permission from the Mathematics/General Science Chair.)
- MAT 205 Medicine and Mathematics 3**
The course is designed to help students with an interest in medicine learn how medications dosages are properly determined for a patient. This course can help students interested in medicine or health professions improve the skills needed for their future careers or goals. The course will explore concepts of drug dosing and calculations for the use of fractions, percentages, ratios, proportions and conversions as they relate to the medical world. Units within the apothecary and household systems will also be compared and issues with our interpretation of each system will be discussed. (*Prerequisite:* MAT 101)

Physical Fitness

Course No.	Course Title	Credits
PED 101	Physical Fitness This class will consist of skills and fitness pertaining to various games and physical activities. The activities consist of volleyball, basketball, badminton, and weight training. The student will learn basic movement through exercises and fitness for better health in the future.	2

Science

Course No.	Course Title	Credits
CHE 101	Chemistry I This course emphasizes the fundamentals of basic chemistry. Students will learn the concept of atoms, molecules and compounds. Students will then apply this knowledge to the concepts including arrangement of the periodic table; chemical equations; Stoichiometry; states of matter, concentrations, solutions, and pH (including acids and bases). <i>(This course requires a mandatory lab. Students must enroll for both the lecture and the lab concurrently.)</i>	3
CHE 101L	Chemistry I Lab This course emphasizes the fundamentals of basic chemistry through the practical experimentation. Students will learn the concept of atoms, molecules and compounds. Students will then apply this knowledge to the concepts including arrangement of the periodic table; chemical equations and reactions; Stoichiometry; the gas laws, concentrations, solutions, and pH (including acids and bases). <i>(3 Laboratory hours – must be enrolled in lecture course)</i>	1
HAP 101	Human Anatomy and Physiology I This course is the first semester of a medically-oriented study of the structure and function of the human body. It is designed for students specializing in health-related and science programs. Topics include basic biochemistry; body organization; basic genetics; cells; tissues; and the integumentary, skeletal, muscular, endocrine and nervous systems. Successful completion of recent high school biology and chemistry courses is highly recommended.	3

- HAP 101L Human Anatomy & Physiology I Lab 1**
 This course will utilize McGraw Hill's Anatomy and Physiology Revealed (APR) which is a computerized system that enables students to explore the human anatomy and physiology through the use of a virtual dissection, histological review, and self-paced quizzing. This lab is designed to enhance and reinforce topics covered in HAP 101 lecture including basic biochemistry; body organization; basic genetics; cells; tissues; and the integumentary, skeletal, muscular, endocrine and nervous systems.
- HAP 102 Human Anatomy and Physiology II 3**
 This course is the second semester of a medically-oriented study of the structure and function of the human body. It is designed for students specializing in health-related and science programs. Topics include digestive, cardiovascular, respiratory, lymphatic, immune, urinary, reproductive systems. (Prerequisites: HAP 101 & HAP 101L.)
- HAP 102L Human Anatomy & Physiology II Lab 1**
 This course will utilize McGraw Hill's Anatomy and Physiology Revealed (APR) which is a computerized system that enables students to explore the human anatomy and physiology through the use of a virtual dissection, histological review, and self-paced quizzing. This lab is designed to enhance and reinforce topics covered in HAP 102 lecture including the blood and circulation, the cardiovascular system, the lymphatic system and immunity, the respiratory system, the urinary system, the reproductive system, the digestive system. (Prerequisites: HAP 101 & HAP 101L.)
- MCH 201 Statics & Strength of Materials 3**
 This course is an examination of coplanar force systems, analysis of trusses, axial stress and strain, material properties, centroids, moment of inertia, stresses in beams, beam design, and torsion.
(Prerequisite: C or better in MAT 101 or permission from Mathematics/General Science Chair.)

PHY 101	Introductory Physics	3
	This course covers the fundamentals of basic physics. Students will understand the concepts of technical measurement, energy, force and vectors, equilibrium and friction, and uniform acceleration. (<i>Prerequisite:</i> C or better in MAT 101 or permission from the Mathematics/General Science Chair.)	

Social Science

Course No.	Course Title	Credits
PSY 101	General Psychology	3
	This course introduces terms and concepts dealing with basic psychological research methods, human and animal behavior, life-span development, states of consciousness, learning, memory, intelligence, motivation, personality structure, stress and coping, behavior disorders, social pressures and cultures. Students are encouraged to apply critical thinking strategies through their participation in various discussions of psychological theories and concepts throughout this course.	
PSY 105	Industrial and Organizational Psychology	3
	This course is designed to introduce students to major areas relevant to the behavior of people at work from the time they enter the labor force until retirement. This course focuses both on understanding the psychological bases of work behavior and on the organizational practices used to create a good fit between people's characteristics and work's demands. The goal of this course is to understand how businesses can be designed so that both efficiency and the quality of employee life are improved. Topics will include the history of Industrial and Organizational psychology, job analysis, psychological assessments, personal decisions, training and development, organizational change, teamwork, motivation, job satisfaction, leadership, work-family balance, work stress and health. This course may also be offered in a distance education or hybrid format, when available.	
SOC 101	Introduction to Sociology	3
	Sociology is a way to understand the world. This course is designed to introduce students to the basic principles of sociological inquiry. It includes analysis of social structures and social behavior, including culture and socialization, social institutions, race, class, gender,	

deviance and social change. Students will be exposed to the basic theoretical and methodological approaches of the discipline. An introduction to sociology will assist students in developing an approach that will allow them to think about and evaluate social situations and issues, thus, acquiring the sociological perspective.

Developmental Courses

Course No.	Course Title	Credits
ENG 0100	Basic College Writing This course is designed to help the entering college student prepare for college-level writing. Word choice and mechanics are reviewed. Emphasis is placed on sentence and paragraph structure and development in writings such as article reviews and brief essays. (<i>Note: This course does not meet the English requirements for graduation.</i>)	3
MAT 0100	College Prep Algebra This course covers arithmetic with the real number system, fractions, percentages, measurements, unit conversions, algebraic and polynomial expressions and their simplification, linear equations and formulas, ratios and proportions. (<i>Note: This course does not meet the Mathematics requirements for graduation.</i>)	3
RSS 0100	College Reading/Study Skills This course is designed to develop the student's fundamental reading abilities. Through extensive practice, the student learns to read efficiently and critically. Improved vocabulary and increased reading rate of speed are accomplished while the student's ability to comprehend and retain what he/she reads is developed. The study skills portion of the course allows students to develop the academic skills necessary for success in college-level work. The basic study skills of listening, note-taking, and time management are reviewed. Various study formulas and test-taking strategies are discussed and practiced by the students. A discussion of stress management and theories of memory round out the course content to aid the college student.	3

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(as of April 20, 2017)

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Thomas R. Quinnan	Vice President, Leeward Construction, Inc.
Alexander E. Stark <i>Vice Chairman</i>	Director of Marketing, Kane is Able, Inc.

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Board Secretary
Julia Jacien

Board Treasurer
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Ed. D., Temple University
M.A., New York University
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M.A., Mansfield University
B.A., York College of Pennsylvania

Chief Academic Officer

Kellyn Nolan, Ph.D. (c)
Ph.D. ABD, Capella University
MBA, Goldey-Beacom College
B.A., Goldey-Beacom College

Chief Financial Officer

TBA

Associate Vice President of Student Success

Janine Tomaszewski
B.A., Pennsylvania State University

Chief Administrative Officer

Michael K. Novak
A.S.T., Williamsport Area Comm. College

Senior Director of Organizational Development

Stephenie Vergnetti
M.S., University of Scranton
B.S., Marywood University

Faculty

A.S. Degree

Academic Coordinator of Clinical Education
Physical Therapist Assistant

Nicole Fabricatore, PTA, BS
B.S., Grand Canyon University
A.S., Keystone College

Computer Information Technology
Department Chairperson

Joseph J. Polinsky
A.S., Pennsylvania State University
Certified Cisco Network Associate (CCNA)
Microsoft Certified Systems Engineer Windows (MCSE)
Microsoft Certified Data Base Administrator SQL 7.0 (MCDBA)

Physical Therapist Assistant
Department Chairperson

Melissa A. Cencetti, PT, DPT
DPT & MS, Arcadia University
BS, King's College
Pediatric Specialty Certificate, Misericordia University
Certificate in Advance Graduate Study in Health Professions, Simmons College

Radiologic Technology
Program Director
Assistant Director of Faculty

Barbara Byrne, M.Ed., R.T. (R) (MR)
M.Ed, Concordia University
B.S., Misericordia University
American Registry of Radiologic Technologists

Radiologic Technology
Clinical Coordinator/Instructor

Roxanne M. Caswell, R.T. (R) (M)
B.S., Misericordia University
A.A.S., Broome Community College
American Registry of Radiologic Technologists

Radiologic Technology
Clinical Instructor

Diana Harris, R.T. (R) (CT) (QM)
B.S., University of St. Francis
American Registry of Radiologic Technologists

Veterinary Technology
Program Director

Kimberly A. Konopka, CVT
B.S., Wilkes University
A.S., Johnson College

Veterinarian

Kimberly S. Mah, VMD
V.M.D., University of Pennsylvania
B.S., Philadelphia College of Pharmacy & Science

Veterinary Instructor

Jolynn Lawler, CVT
A.S., Johnson College

Veterinary Instructor

Amanda Melnyk, CVT
A.S., Johnson College

A.A.S. Degree

Architectural Drafting & Design Technology
Department Chairperson

John F. DeAngelis
B.S., Temple University
A.S., Pennsylvania State University
NICET Certified Engineering Technician
(National Institute of Certified Engineering Technicians)
Associate Member American Institute of Architects
Certified Member of the ADDA International

Automotive Technology
Department Chairperson/Faculty Leader

Mark Kozemko
A.S.T., Johnson College
ASE Cert. Master Auto. Tech.

Biomedical Equipment Technology
Department Chairperson
Sustainability Coordinator

Douglas D. Hampton
A.S., Community College of the Finger Lakes
A.A.S., Auburn Community College

Business Management
Department Chairperson
Director of the Office of Online Learning
Faculty Leader

Laura Little
M.B.A., Cameron University
B.A., Binghamton University
Project Management Professional (PMP)

Carpentry & Cabinetmaking Technology
Department Chairperson / Faculty Leader

Todd Campbell
A.S.T., Johnson College
Licensed General Contractor

Diesel Instructor

TBA

Electrical Construction & Maintenance Technology
Associate Department Chairperson

Frank Mickavicz
A.A.S., Johnson College

Director of Innovation
Electronic Technology
Department Chairperson

Richard P. Fornes
B.S. State University of New York, Binghamton
A.S., Broome Community College
A.S.T., Johnson College

**Heating Ventilation & Air-Conditioning Technology
Instructor**

Pedro Santiago
A.A.S., Technical Career Institute
EPA Approved Universal Technician

Certificate

Welding Instructor

Anthony Delucca
Certificate, Welder Training and Testing Institute
Motorcycle Fabrication Certificate
AWS D1.1 Certified Welder

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Department Chairperson
Director of Perkins**

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M.S., Marywood University
B.A., St. Bonaventure University
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Coordinator of Adjuncts**

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B.A., Saint Vincent College
Post-Masters Certificate in Education, Capella University

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Department Chairperson
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