2020 – 2021 Catalog

ACCREDITATIONS

Middle States Commission on Higher Education (MSCHE)
3624 Market Street, Philadelphia, PA 19104
Phone: (267) 284-5000
Email: info@msche.org Spanish: espanolinfo@msche.org
Website: https://www.msche.org/
Candidacy Status

American Veterinary Medical Association (AVMA),
Veterinary Technology Program

Commission on Accreditation in Physical Therapy Education (CAPTE)
Physical Therapist Assistant Program

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.

Student Responsibilities

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 Handbook which includes the Community Code of Ethics. 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.

Accreditation

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.

Candidate for Accreditation by the Middle States Commission on Higher Education (MSCHE), 3624 Market Street, Philadelphia, PA 19104.
Phone: (267) 284-5000
Email: info@msche.org Spanish: espanolinfo@msche.org
Website: www.msche.org

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)
101 Blue Seal Drive, S.E. Suite 101, Leesburg, VA 20175
Phone: 1-703-669-6650
Email: webmaster@natef.org
Website: www.natef.org

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;
Phone: 703-706-3245;
Email: accreditation@apta.org
Website: www.capteonline.org

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)
1931 North Meacham Road, Suite 100, Schaumburg, IL 60173-4360
Phone: 800.248.2862
Fax: 847.925.1329
Website: www.avma.org

Curriculum Approval

The Architectural Drafting & Design Technology program has curriculum approval at the Drafter level by the American Design Drafting Association International (ADDA).
105 East Main Street, Newbern, Tennessee 38059
Telephone: 731.627.0802
Fax: 731.627.9321
Website: www.adda.org

The Heavy Equipment Technology program seeking curriculum approval by the Assoicated Equipment Distributors (AED).
650 E Algonquin Road, Ste 305 Schaumburg IL 60173
Telephone: 630.574.0650
Website: www.aednet.org

General College Policies

Policy for Policies

The college policies promote the college's mission, enhance operational efficiency and college governance, and communicate expectations relating to conduct, thereby reducing institutional risk. Johnson College expects faculty, staff, and students to be familiar with and adhere to all applicable policies. In order to promote accessibility to current policies, as well as consistency and clarity of content, this policy establishes a framework, common format, roles and responsibilities and process for adoption, review, revision and dissemination of all policies as defined in this policy.

Non-Discrimination Policy

Johnson College does not discriminate with regard to race, color, creed, age, national or ethnic origin, religion, disability, sex, sexual orientation, gender, gender identity and expression, including a transgender identity, genetics, veteran status, or ancestry in the administration of its educational and admission policies, scholarship, loan, athletic and other school administered programs, or employment practices in accordance with Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Sections 503 and 504 of the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, the Americans with Disabilities Act of 1990, or any other legally protected category. For information regarding civil rights and grievance procedures, contact the
Title IX Coordinator of Johnson College, 3427 North Main Avenue, Scranton, PA 18508; (570) 702-8944.

Felony and Probation Policy

Johnson College has an affirmative obligation to advise students that a prior felony conviction may impede their ability to complete the requirements of certain academic programs, to meet the licensure requirements for certain professions, and find employment in field. Once so advised, students may not be prohibited from pursuing a particular course of study.

Pregnancy Policy

It is the student’s choice whether or not to inform the Program Director 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 Program Director.

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2020-2021 ACADEMIC CALENDAR

Fall Semester 2020

Aug. 31	Semester Begins	Monday
Sept. 4	Drop/Add Ends	Friday
Sept. 7	Labor Day, College Closed	Monday
Oct. 12	Fall Break, College Closed	Monday
Nov. 6	Withdraw Date	Friday
Nov. 11	Veterans Day, College Closed	Wednesday
Nov. 26-Nov. 29	Thanksgiving Break, College Closed	Thurs. thru Sun.
Dec. 11	Semester Ends	Friday

Intersession Semester

Dec. 13	Semester Begins	Sunday
Jan. 17	Semester Ends	Sunday

Spring Semester 2021

Jan 18	Martin Luther King, Jr. Day, College Closed	Monday
Jan. 19	Semester Begins	Tuesday
Jan. 22	Drop/Add Ends	Friday
Feb. 15	Presidents Day, College Closed	Monday
March 8-14	Spring Break, No Classes	Mon. thru Sun.
April 1	Withdraw Date	Thursday
April 2-5	Break - College Closed	Fri. thru Mon.
May 7	Semester Ends	Friday
May 14	Commencement Rehearsal	Friday
May 15	Commencement	Saturday

Institutional Overview

Johnson College is a vital resource for career and technical education in Northeastern Pennsylvania. The College was founded by Orlando S. Johnson, a wealthy coal baron in Scranton who left the bulk of his estate to form a trade school for secondary-level students, teaching them “useful arts and trades that may enable them to make an honorable living and become contributing members of society." In 1964, the school transitioned to a post-secondary institution offering certificates. Throughout the century, new buildings were constructed, and degree programs added.

Today, Johnson College offers 14 associate degree programs, 3 academic certificates, and numerous job training opportunities. In fall 2019, 480 students enrolled in credit bearing courses. The Continuing Education department offers non-credit training programs to upskill the local workforce in areas of machining, carpentry, drafting, and automotive repair. The College also supports the area’s youth by offering STEM training through summer camps, after school activities, or other special events. The College honors three articulation agreements with post-secondary institutions and twelve high school dual enrollment agreements. The College also participates in the Pennsylvania Department of Education’s Students Occupationally and Academically Ready (SOAR) Program of Study (POS) educational plan that articulates the secondary career and technical courses to a postsecondary program. The College employs approximately 120 dedicated individuals to support the student experience, either through teaching or through educational support services and administration.

The College has maintained Accrediting Commission of Career Schools and College (previously known as the National Association of Trade and Technical Schools) accreditation since 1979. Several Johnson College programs maintain additional accreditation through agencies such as the American Design Drafting Association International, the Commission on Accreditation in Physical Therapy Education, the Joint Review Committee on Education in Radiologic Technology, the American Veterinary Medical Association, and the National Automotive Technicians Education Foundation.

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 the industry and professional community.

To accomplish this primary objective, students pursue 40+ credits of technology classes, and 20+ credits are general education courses, preparing them to advance in their careers. The average class size is approximately 17 students, while lab sections average 12 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, occupational 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 experience.

Learning opportunities are enhanced through the use of the College Resource Center which is kept current with books, periodicals, and brochures and provides students with Internet capability. The 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 professionals.

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**.**

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 Technology
Architectural Drafting & Design Technology
Automotive Technology
Biomedical Equipment Technology
Carpentry & Cabinetmaking Technology
Diesel Truck Technology
Electrical Construction & Maintenance Technology
Electronic Engineering Technology
Heating, Ventilation & Air Conditioning Technology
Heavy Equipment Technology
Logistics & Supply Chain Management

Certificates Awarded

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

Building Property and Maintenace Technology
Diesel Preventative Maintenance Technology
Welding Technology

Job Training

https://www.johnson.edu/continuing-education

ENROLLMENT INFORMATION

Johnson College accepts qualified students regardless of race, religion, disability or national origin. Admission to Johnson College is based on an evaluation of the applicant's desire, ability, and potential for success. Applicants will be judged not only on their scholastic achievement and abilities, but also on their intellectual, physical, emotional and behavioral capacities to meet the essential requirements of the school's curriculum. 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 and a personal information session with a Recruitment Advisor. Appointments may also be made to meet with appropriate faculty and current students.

Admission Process

1. Complete the application. Students can apply online at www.johnson.edu. There is an application fee. Students may also contact the Enrollment Office at:

   Johnson College
   3427 North Main Ave.
   Scranton, PA 18508
   enroll@johnson.edu
   570-702-8856

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)
   - If applicable, an official copy of Scholastic Aptitude Test (SAT) **or** American College Test (ACT) Scores
   - If applicable, an official transcript from each post-secondary institution attended
   - It is strongly recommended that all applicants provide their Recruitment Advisor with any items they believe will provide them with the best opportunity for acceptance (resume, letters of recommendation, certifications, etc .)
   - Based on information provided will determine if a placement test is needed.

   Note: Admission Requirements for each program area are found on the Enrollment webpage. Health and Animal Science Programs may require additional documentation.

3. The applicant is encourage to schedule a campus visit, shadow day, or attend an open house event.

Placement Exam

Accepted students may be required to take a placement exam to determine their college readiness. The two part exam tests students in Math and Writing. Based on the test results, students may be required to take developmental courses. A photo ID is required to sit for the exam. Students transferring in English and/or Math from another post-secondary institution with a grade of "C" or better will not be required to take the placement exam. Students may also demonstrate college readiness by submitting a SAT or ACT scores.

Non-Matriculation

A student is considered non-matriculating if they register for courses but have not been accepted into a degree or certificate program. Non-degree seeking/non-matriculating students can enroll in up to 9 credits (Students wishing to obtain more than 9 credits must meet with a faculty leaders and/or department representative for approval). Enrollment as a non-degree seeking student does not imply admission to the college.

Non-matriculation students do not follow admissions requirements and are not required to take placement testing.

This status is most suited for students seeking personal enrichment, learning/upgrading job skills, seeking degree requirements for another institution, or enhancing a future application for admission into a program of study.

A student wishing to become a matriculating student must follow the admissions requirements and gain acceptance into degree/certificate program.

For further information regarding registration for Non-Matriculating students, please contact the Registrar's Office.

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 Depart to the Office of the Registrar. The documents needed to complete the Checklist are below

1. High School transcript with GPA of 2.5
2. Enrolled in Johnson within 3 years
3. POS Perkins Articulation Agreement Coversheet
4. Task list Coversheet with the signature of a Secondary School Technical Instructor
5. Pennsylvania Certificate of Competency or a Pennsylvania Skills Certificate in a technical program area

SOAR credits being evaluated will be awarded after completing the industry certificate.

If SOAR credits are awarded they will be placed on the student transcript with a letter grade of "T".

More information can be found at: https://www.pacollegetransfer.com/PASOAR/tabid/4498/Default.aspx

Dual Enrollment

As defined by the Pennsylvania Department of Education, "dual enrollment, referred to as 'concurrent enrollment' in the School Code, is an effort by the Commonwealth to encourage a broader range of students to experience postsecondary coursework and its increased academic rigor, while still in the supportive environment of their local high school. The intent is to increase the number of students that go on to postsecondary education and to decrease the need for remedial coursework at postsecondary institutions."

It is a "locally administered program that allows a secondary student to concurrently enroll in postsecondary courses and to receive college credit for that coursework. The local programs are run through partnerships between school entities and eligible postsecondary institutions."

BURSAR OFFFICE - TUITION, FEES, EXPENSES

The following tuition and fees are for the 2020 - 2021 academic year. The College reviews tuition and fees annually and reserves the right to adjust fees when necessary.

Application Fee

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

Tuition Deposit

Accepted students must submit a 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 20) credits per semester, 24 to 40 credits per academic year) for the 2020-2021 academic year is $17,700. The per credit tuition rate of $550 will be assessed for each approved credits over 20 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 $550. 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.

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

Annual Student Fees

Administrative Fees

Returned Check	**$30**
Official Transcript	**$10**
Unofficial Transcript	**$5**
Late Registration	**$50**
Challenge Exam ***(if passed, one credit hour)***	**$550**

Program Fee – Carpentry,HVAC, ECM, BPM	$1,000
Program Fee – Radiologic, VET & PTA	$1,500
Program Fee – Welding	$1,400
Program Fee – Drafting	$1,000
Program Fee – Diesel & Auto	$1,000
Program Fee – Logistics	$600

Program Fee – CIT, EET, AMET & BioMed $1,000

Technology & Facilities Fee	**$1,000**
Graduation Fee*	**$200** **(Sophomore Only)**

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

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 Truck, HVAC, Logistics, Welding (SMAW and FCAW), and Heavy Equipment 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.

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

*See Application of Policy (1).

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.

FINANCIAL AID OFFICE

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). https://fafsa.ed.gov All students are required to complete a FAFSA or sign a FAFSA waiver form when other funding sources exist.

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 employment may obtain further information from the Financial Aid Office. Federal Work-Study: a federally-funded employment program that provides supplemental assistance to students who demonstrate financial need. Students participating in the Federal Work- Study program will be required to perform community service hours at an off-campus location in the academic year in which they receive federal funds.

Satisfactory Academic Progress (SAP)

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.

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 $\frac{12 \text{ earned}}{18 \text{ attempted}} = 67\%$ Successful CR

Undergraduate Degree	9 earned / 18 attempted = 50%		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	71	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. *If a student receives a non-passing grade, (i.e. below a 'C' in a 'health science' program) and repeats the course, the newly earned grade replaces the original grade in the CGPA*
*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.

Veteran Beneficiaries

The law requires that educational assistance benefits to Veterans and other eligible persons be discontinued when the student ceases to make satisfactory progress toward completion of his or her training objective. Benefits can be resumed if the student reenrolls in the same educational institution and in the same program. In other cases, benefits cannot be resumed unless VA finds that the cause of the unsatisfactory attendance, conduct or progress has been removed and the program of education or training to be pursued by the student is suitable to his or her aptitudes, interests, and abilities.
Any Veteran or dependent of will follow the same Academic Progress Policy as those students who utilize Title IV aid. However, if a Veteran or a dependent are placed on probation or dismissed from the College, the SCO will notify the VA via VA-Once. Academic Progress is checked at the end of each semester and the student will be notified via email of their status.

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.*** Upon review by the committee, all submissions will receive a response. 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.

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

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.

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

VA Pending Payment Compliance

In accordance with Title 38 US Code 3679 subsection (e), this school adopts the following additional provisions for any students using U.S. Department of Veteran Affairs (VA) Post 9/11 G.I. Bill® (Ch. 33) or Vocational Rehabilitation and Employment (Ch. 31) benefits, while payment to the institution is pending from the VA. This school will not:

- Prevent the student's enrollment;
- Assess a late penalty fee to;
- Require student secure alternative or additional funding;
- Deny their access to any resources (access to classes, libraries, or other institutional facilities) available to other students who have satisfied their tuition and fee bills to the institution.

However, to qualify for this provision, such students may be required to:

- Provide Chapter 33 Certificate of Eligibility (or its equivalent) or for Chapter 31, VA VR&E's contract with the school on VA Form 28-1905 by the first day of class.

Note: Chapter 33 students can register at the VA Regional Office to use E-Benefits to get the equivalent of a Chapter 33 Certificate of Eligibility. Chapter 31 student cannot get a completed VA Form 28-1905 (or any equivalent) before the VA VR&E case-manager issues it to the school.

- Provide Written request to be certified

§3679. Disapproval of courses

(a)(1) Except as provided by paragraph (2), any course approved for the purposes of this chapter which fails to meet any of the requirements of this chapter shall be immediately disapproved by the Secretary or the appropriate State approving agency. An educational institution which has its courses disapproved by the Secretary or a State approving agency will be notified of such disapproval by a certified or registered letter of notification and a return receipt secured.
(2) In the case of a course of education that would be subject to disapproval under paragraph (1) solely for the reason that the Secretary of Education withdraws the recognition of the accrediting agency that accredited the course, the Secretary of Veterans Affairs, in consultation with the Secretary of Education, and notwithstanding the withdrawal, may continue to treat the course as an approved course of education under this chapter for a period not to exceed 18 months from the date of the withdrawal of recognition of the accrediting agency, unless the Secretary of Veterans Affairs or the appropriate State approving agency determines that there is evidence to support the disapproval of the course under this chapter. The Secretary shall provide to any veteran enrolled in such a course of education notice of the status of the course of education.
(b) Each State approving agency shall notify the Secretary of each course which it has disapproved under this section. The Secretary shall notify the State approving agency of the Secretary's disapproval of any educational institution under chapter 31 of this title.
(c)(1) Notwithstanding any other provision of this chapter and subject to paragraphs (3) through (6), the Secretary shall disapprove a course of education provided by a public institution of higher learning if the institution charges tuition and fees for that course for covered individuals who are pursuing the course with educational assistance under chapter 30, 31, or 33 of this title while living in the State in which the institution is located at a rate that is higher than the rate the institution charges for tuition and fees for that course for residents of the State in which the institution is located, regardless of the covered individual's State of residence.
(2) For purposes of this subsection, a covered individual is any individual as follows:

(A) A veteran who was discharged or released from a period of not fewer than 90 days of service in the active military, naval, or air service less than three years before the date of enrollment in the course concerned.

(B) An individual who is entitled to assistance under—
(i) section 3311(b)(9) of this title; or
(ii) section 3319 of this title by virtue of the individual's relationship to—
(I) a veteran described in subparagraph (A); or
(II) a member of the uniformed services described in section 3319(b) of this title who is serving on active duty.
(C) An individual who is entitled to rehabilitation under section 3102(a) of this title.
(3) If after enrollment in a course of education that is subject to disapproval under paragraph (1) by reason of paragraph (2)(A), (2)(B), or (2)(C) a covered individual pursues one or more courses of education at the same public institution of higher learning while remaining continuously enrolled (other than during regularly scheduled breaks between courses, semesters or terms) at that institution of higher learning, any course so pursued by the covered individual at that institution of higher learning while so continuously enrolled shall also be subject to disapproval under paragraph (1).
(4) It shall not be grounds to disapprove a course of education under paragraph (1) if a public institution of higher learning requires a covered individual pursuing a course of education at the institution to demonstrate an intent, by means other than satisfying a physical presence requirement, to establish residency in the State.

STUDENT SERVICES

Student Handbook

The Johnson College **Student Handbook** is accessible through the Johnson College website at https://johnson.edu/wp-content/uploads/2019/10/Student-Handbook-2.pdf. The handbook is available to all students to explain assistance, regulations, organizations, and facilities. 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.

Student Services

Resource Center

The newly renovated Johnson College Resource Center, located in the Moffat Student Center, complements the curriculum of both the academic and technology areas. The collection offers students the resources necessary to research trade and technical issues that pertain to their fields of study. The Resource Center also offers the use of online computer services, course reserves, current textbooks, daily newspapers, wireless access, and black and white/color printing. Areas for traditional, relaxed, and group study are available. A private study room can also be reserved for students looking for a distraction-free work environment.

Patrons can access the Resource Center collection using Destiny, the Library's Online Public Access Catalog, which offers a variety of search strategies, including author, titles, subject and keyword searching. For a full list of databases, please see the Resource Center website. The Resource Center also offers Interlibrary Loan (ILL) through OCLC's WorldShare Interlibrary Loan program. Johnson College announced a new partnership with the Scranton Public Library, one of the six libraries making up the greater Lackawanna County Library System. This partnership provides Johnson College students with access to databases, free on-line tutoring, and a rotating book collection that will be featured in the campus resource center.

Virtual Bookstore

Johnson College provides students with a virtual bookstore for textbook purchases. The online bookstore can be accessed by visiting https://jc.ecampus.com/. Students have the option to purchase new or used text materials. If available, students may also utilize book rental and eBook options. Any questions regarding your on-line purchases can be directed to the Resource Center located in the Moffat Student Center.

Tutoring

Tutoring opportunities (peer and professional) are available for general education and program area courses. Appointments are offered in both one-on-one and group sessions. Walk-in hours are also offered each day of the week. Students must stop by the Resource Center to register and complete necessary paperwork.

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 Resource Center for student use. Johnson College also provides wireless access campus wide.

Fitness Center (CLOSED Due to COVID)
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 machines, free weights, and more! The hours of operation are posted per semester, and will be closed on official college holidays.

Gymnasium (CLOSED Due to COVID)
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(CLOSED Due to COVID)
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 also available for after-hours snacks and beverages around 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. 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 Manager 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.

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.

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.

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 Advising Center
Academic advisors are open to all currently enrolled Johnson College students. 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 advisors 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, academic advising, tutoring, and studying. Academic Advising is a collaborative relationship between a student and an academic advisor, and it is **the student's responsibility** to register for the classes they have been advised to enroll in.

STUDENT ENGAGEMENT

Student Engagement Office
The mission of the Student Engagement Office is to develop well-rounded and responsible graduates by engaging our students in recreation, leadership, and social opportunities while providing support services in an inclusive environment. New student orientation, student conduct, student organizations and events, recreation, and housing are under the supervision of the Student Engagement Office.

Johnson College offers both on and off campus actitivies. Student organizations include Student Ambassador Program, Student Government, Johnson Activity Group, and the Social Force Club. There are also specific clinical clubs with information available from clinical staff.

More information can be found on the department's website at
https://www.johnson.edu/current-students/campus-life/

OFFICE of the REGISTRAR

The Office of the Registrar provides student services and support to the Johnson College community with a high degree of integrity by maintaining all student records, reinforcing the College's academic policies, registration & scheduling, and providing referrals & resources for successful academic progression & completion.

The mission of the Registrar Office is to provide effective methods facilitating a culture that preserves the values of the College and its community.

REGISTRAR SERVICES

Transcript Requests
Johnson College will provided official transcripts for a fee of $10 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, visit the registrar's website at www.johnson.edu/registrar

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 Change of Contact form. These forms can be found on the registrar's webpage at www.johnson.edu/registrar.

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. Course audit forms are available in the Registrar's office, and must be filled out prior to course audit.

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' page of the College's website at www.johnson.edu/registrar

Prior Learning Assessment
Prior Learning Assessment (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. Acceptable proof of PLA is a letter of certification from the former employer on company letterhead. This must accompany the PLA form with signatures from the Office of Academics and the Office of the Registrar. (Evaluation of prior learning completed 5 years before the request date is based on review by a the Office of Academics, appropriate faculty, and Office of the Registrar.)

For more information, please refer to the Registrar's webpage.

Transfer of Credit with Baccalaureate Institution

Johnson College has program specific articulation agreements with the following baccalaureate awarding institutions:

- Keystone College
- Marywood University
- St. Matthew's Univerity, FL
- Pennsylvania College of Technology

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 regionally 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 Office of Academics 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.
- The Enrollment Office will forward the official transcripts to the Office of the Registrar for evaluation.

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. **Incoming students only have ONE (1) semester to have transcripts reviewed. After their first semester, transcripts will not be accepted for review.**

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.

- **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 "C" 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 matriculating 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.

  Grades earned on the Challenge Exam will be placed on the student transcript. Testing must take place prior to the completion of the first 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 the cost of one credit 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 the cost of one credit.

More information can be found by visiting the Office of the Registrar's website: 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 transcripted 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.

Registration

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 the Student Advising Center 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 will be given registration access to the Student Portal, which enables them to

register online for classes. Registration opens one minute after midnight on the designated date of that registration period. Registration closes at 11:59 PM on the closing date of that registration period. Any student who misses this timeline will need to see the Office of the Registrar in order to register for classes.

Students are permitted to attend only those classes for which they have officially registered and paid for. It is the responsibility of students to ensure that they are following the suggested program scope and sequence while meeting all program requirements for graduation. Failure to do so may result in extending their program of education.

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

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 drop / add period of the semester. Schedule change forms are available through the Office of the Registrar. Distance Education courses cannot be added after the first day of class.

Any change in schedule must first be approved by an academic advisor.

Student-Initiated Drop/Add of a Course
From the first day of class to the end of the first week of the semester, indicated on the academic calendar. 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 from the Registrar's office.

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 from the Registrar's office. Distance Education courses cannot be added after the start of the semester.

Student-Initiated Withdraw of a Course
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" (Withdrew) 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.

Change of Major

Students may apply to change their major during the first academic week of a 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.

Process to Withdraw from the College

Students who wish to withdraw from Johnson College must:

- Meet with the Senior Director of the Student Advising Center. You may be referred to other student supports.
- Complete an official Withdrawal form available from the Office of the Registrar or by emailing advising@johnson.edu and meeting with your advisor.

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

In the case that a student feels the need to medically withdraw themselves from Johnson College, the student will need to provide medical documentation if planning to return to Johnson College. The student will still need to follow the Re-Admission/Re-Enrollment policy pending on when the student actually returns.

Medical documentation will be housed in the Office of the Registrar separately from student files. The Office of the Registrar will work with Academic Advising to maintain student medical withdrawals and ensure that all proper documentation is provided. Examples of medical withdrawal include prolonged medical issues, pregnancy, psychiatric, and rehabilitation.

If the student wishes to provide medical documentation prior to withdrawing themselves from the college, the college will still accept the documentation but will still require a release from a medical professional stating that the student has been remedied and that you are capable of resuming college studies.

Student Record Maintenance and FERPA

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.

Notification of Rights under FERPA for Postsecondary Institutions

The Family Educational Rights and Privacy Act (FERPA) afford eligible students certain rights with respect to their education records. (An "eligible student" under FERPA is a student who is 18 years of age or older or who attends a postsecondary institution.) These rights include:

1. The right to inspect and review the student's education records within 45 days after the day Johnson College receives a request for access. A student should submit to the registrar a written request that identifies the record(s) the student wishes to inspect. The school official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the school official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.

2. The right to request the amendment of the student's education records that the student believes is inaccurate, misleading, or otherwise in violation of the student's privacy rights under FERPA.

A student who wishes to ask the school to amend a record should write the school official responsible for the record, clearly identify the part of the record the student wants changed, and specify why it should be changed.

If the school decides not to amend the record as requested, the school will notify the student in writing of the decision and the student's right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

3. The right to provide written consent before the university discloses personally identifiable information (PII) from the student's education records, except to the extent that FERPA authorizes disclosure without consent.

   The school discloses education records without a student's prior written consent under the FERPA exception for disclosure to school officials with legitimate educational interests. A school official is a person employed by Johnson College in an administrative, supervisory, academic, research, or support staff position (including law enforcement unit personnel and health staff); a person serving on the board of trustees; or a student serving on an official committee, such as a disciplinary or grievance committee. A school official also may include a volunteer or contractor outside of Johnson College who performs an institutional service of function for which the school would otherwise use its own employees and who is under the direct control of the school with respect to the use and maintenance of PII from education records, such as an attorney, auditor, or collection agent or a student volunteering to assist another school official in performing his or her tasks. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibilities for Johnson College.

   Upon request, the school also discloses education records without consent to officials of another school in which a student seeks or intends to enroll.

   The right to file a complaint with the U.S. Department of Education concerning alleged failures by Johnson College to comply with the requirements of FERPA. The name and address of the Office that administers FERPA is:

   Family Policy Compliance Office
   U.S. Department of Education
   400 Maryland Avenue, SW
   Washington, DC 20202

Release of Directory Information

Johnson College may disclose appropriately designated "directory information" without written consent, unless the student has advised the College to the contrary by signing a Request to Prevent Disclosure of Directory Information within the first two weeks of the semester. The forms are available in the Registrar's Office. This will also prevent the Registrar from releasing information to the media regarding graduation or awards since that information includes the student's address.

Directory information is defined as a student's name, address, telephone number, enrollment status, e-mail address, program of study, dates of attendance, participation in activities and sports, honors attained, degrees awarded and dates of awarding.

Johnson College assumes the failure on the part of any student to specifically request the withholding of "Directory Information" indicates individual approval for the disclosure.

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 no more than two consecutive semesters, excluding summer and intersession terms, except those students who are going from a non-health related program to a health-related program. Otherwise, the student is considered a new applicant and must contact the Enrollment Department to file a new application.

Students wishing to be readmitted, as defined above, must meet with their academic advisor. 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 the Senior Director of Student Affairs 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. A representative from The Office of Academics will make the decision for readmission. Students will be enrolled on a probationary status and may be required to an academic probation action plan.

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 Advising Center will first go over all material needed in the readmission procedure.
2) The Student Business Office will then review all registrations to determine if the student is in good financial standing with the college.
3) Registrations of students deemed eligible for readmission will be reviewed by an academic advisor for review and to determine if there are any stipulations to be added to readmission.
4) Students eligible for readmission may be required to adhere to a specific academic plan.
5) Students then must complete normal course registration procedures in conjunction with an academic advisor.
6) After notification of readmission and any requirements for readmission, student must meet with the Financial Aid to develop a plan to finance their education.

* If a student originally left Johnson College for medical reasons, student must provide a medical release from a licensed medical provider to the Office of the Registrar and then approved by an appropriate individual from the Office of Academics.

Carl D. Perkins Vocational and Applied Technology Act

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 supporting students attending Johnson College Programs.

Any action taken by Johnson College in implementing the Perkins Grant program may be appealed by current students, parents of current students, teachers employed by Johnson College, or local area residents, in writing, to the Director of the Perkins Grant at the address listed below. The appeal must be received in the office of the Director of the Perkins Grant within ninety (90) calendar days from the date the action is taken or announced, whichever occurs first.

The Director of the Perkins Grant will present the written appeal to the Perkins Committee of Johnson College at a session convened within fourteen (14) calendar days from the receipt of the appeal. The Perkins Committee will review the appeal and determine if further action is necessary. The Committee will notify the person(s) in writing within ten (10) days of the Committee's decision.

If the Committee's decision is adverse to the person(s) filing the appeal, the written appeal will be presented to the full Perkins Advisory Board at its next regularly scheduled session. The Board will vote on the action to be taken. A majority of the full Advisory Board will be necessary to reverse the decision recommended by the Executive Committee.

The Director of the Perkins Grant will notify the person(s) of the full Advisory Board's decision in writing within ten (10) calendar days. The next level of appeal is the Commissioner of Post-Secondary Education, Bureau of Post-Secondary Services, Division of Program Services, Pennsylvania Department of Education, 333 Market Street, Harrisburg, PA 17126-0333.

A copy of this procedure will be provided to faculty and staff.

Petitions may be sent to:

Director of the Perkins Grant
Johnson College
3427 North Main Ave
Scranton, PA 18508

Johnson College is an Equal Opportunity / Affirmative Action College.

OFFICE OF ACADEMICS

Length of Programs

The academic year, consisting of two 15-week semesters, begins in early fall and ends in May. The College offers six-week semesters during winter and summer break. 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 Building and Property Maintenance Technology, the Diesel Preventative Maintenance Technology, and the Welding Technology certificate programs are 9 months in length. Total program hours vary by department.

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 20 credits in both the fall and spring semesters. An academic overload occurs when a student attempts to register for more than 20 credits in a semester. Students who wish to register for more than 20 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.

Academic Program Course Codes

ADT - Architechural Drafting & Design Technology
AMT - Advanced Manufacturing Technology
AUT - Automotive Technology
BET - Biomedical Equipment Technology
BPM - Building & Property Maintenance (Certificate)
BTT - Building Trades Technology
CCM - Carpentry & Cabinetmaking Technology
CIT - Computer Information Technology
DTT - Diesel Truck Technology
DPMT - Diesel Preventative Maintenance Technology (Certificate)
ECM - Electrical Construction & Maintenance Technology
EET - Electronic Engineering Technology
HAC - Heating, Ventilation & Air Conditioning Technology
HET – Heavy Equipment Technology
LOG - Logistics & Supply Chain Management
PTA - Physical Therapist Assistant
RAD - Radiologic Technology
VET - Veterinary Technology
WTC - Welding Technology (Certificate)

Credit Hours

The U.S. Department of Education, at 34 CFR Section 600.2, defines "credit hour" as:
"…an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates not less than:

(1) one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or ten to twelve weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time; or,

(2) at least an equivalent amount of work as required in paragraph (1) of this definition for other academic activities as established by the institution, including laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours."

The Pennsylvania regulation states, in part, "A semester credit hour represents a unit of curricular material that normally can be taught in a minimum of 14 hours of classroom instruction, plus appropriate outside preparation or the equivalent as determined by the faculty. A quarter credit hour represents a unit of curricular material that normally can be taught in a minimum of 10 hours or classroom instruction, plus appropriate outside preparation or the equivalent as determined by the faculty." 22 Pa. Code Section 31.21(b).u

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 = 50 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
Clincal hours = See programmatic handbook

Grading System

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

Letter Grade	Numerical Relationship	Quality Points
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
SA	Equivalent to "F"
NA	Never Attended

** A grade of "Incomplete" will be awarded only in exceptional circumstances. A grade of "Incomplete" must be completed within 10 academic school days of following fall/ spring term. 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:

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

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.

Students will need to repeat a course if they fail either the lecture or lab of a concurrent course offering.

Criminal Background Check / Drug and Alcohol Screening

All academic programs of study, clinical practicums, and internships, as well as potential employers, may randomly conduct 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. Students' failure to report the results of these incidents to the College will be subject to disciplinary action.

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.

Attendance Policy

(In-class and Distance Education)

While each college develops its own methods for tracking class attendance and for defining conditions for excused absences, Johnson College adheres to federal regulations that require verification of class attendance for all students receiving federal financial aid and Veteran Beneficiaries. These regulations dictate that a student MUST attend the

classes for which he/she is awarded financial aid. Financial aid may be reduced or cancelled based on student attendance information.

Federal regulations require institutions to report attendance information for students who have stopped attending class or those who never attended. Students will be notified via their Johnson College email account. A student who is reported to have never attended will be assigned a grade of (N/A). A student who is reported to have stopped attending will be assigned a grade of (SA) for that class. The registrar will be notified by faculty through the student portal.

Students are responsible for understanding and adhering to the following attendance policy:

- Students are required to be present for scheduled instruction whether in a face-to-face or in a virtual environment.
- A distance education student will be considered in attendance if the student submitted at least one graded activity per week (for example, quizzes, discussions, or dropbox assignments).
- Students are required to participate in-class and online classes.

Any student missing the equivalent of two weeks of class will be automatically dropped from the course.

class meets	3 X a week	2X a week	once a week	DE
absences allowed	6	4	2	2 weeks

Students who are dropped from the class must repeat the class in a subsequent semester in order to meet degree requirements. If a student fails either a lecture or lab, they must retake both courses.

Students with extenuating circumstances should contact their instructor immediately to discuss their individual situation. Possible excused absences include but may not be limited to:

- military,
- bereavement,
- extended illness,
- participation in school function,
- jury duty,
- Self-quarantine (COVID 19)

In response to COVID 19

Johnson College takes the health and safety of its students, staff, and faculty seriously. The College will follow all local, state, and federal guidelines set forth. Students that believe they are ill due to COVID 19 symptoms are to stay home or self-isolate. If possible, the student is to continue their online coursework, while the lab work will be completed once the home isolation discontinues. Students under no circumstance will

receive punitive measures for self-quarantining. This policy addendum includes caring for a family member with COVID 19.

Please see the CDC guidelines if you are sick: https://www.cdc.gov/coronavirus/2019-ncov/if-you-are-sick/steps-when-sick.html

Administrative Withdrawal Appeal Procedure:
It is the philosophy of the institution that administrative withdrawal appeals will be handled informally between the student and the instructor. Only after the student has attempted to resolve the matter with the instructor, should a formal appeal be initiated. The student shall submit, in writing, to the Office of Academics evidence as to why the administrative withdrawal should be reversed. This must occur within five (5) days of being withdrawn by the instructor. The Office of Academics will review the information and notify the student of the decision within three (3) days of the receipt of the appeal. The decision of the Chief Academic Officer is final.

Final Examination Attendance:
Attendance at final examinations is mandatory. Such examinations are administered in all academic subjects at the end of each semester in accordance with academic calendar determined by the Office of Academics.

Class Cancellation
Except in unusual circumstances, instructors are expected to conduct all classes on the days and times assigned and to teach for the full-allotted time. If the instructor does not arrive within the first 15 minutes of class time, then class is cancelled. Students should take attendance and bring it to the Office of Academics.

Weather / Emergency Cancellation
When classes are cancelled because of inclement weather or other emergencies, information can be obtained from the Johnson College website (www.johnson.edu) or by calling the main office line at 570-342-6404 and following the prompts. It is also prudent to watch the local television channels.
You also can elect to be notified by text message to your cell phone. For this service, please go to www.johnson.edu/campus-alerts

Online classes will **not** be cancelled due to inclement weather. All online coursework will retain their deadlines regardless of weather conditions. If a technological emergency results in the Desire2Learn server being down, students will be notified through an announcement on the College's website (www.johnson.edu). Students may sign up for text and/or email notifications at https://www.johnson.edu/campus-alerts/ . Please note, Desire2Learn is not housed on the Johnson College campus; emergencies on campus will have little to no effect on distance education courses.

Make-up Work

When students are absent because of conditions beyond their control, they may be permitted to make up lost time in their academic and/or major courses. It is the responsibility of the student to request consideration for make-up work from the instructor. Make-up work is not permitted for the purpose of receiving Veterans Administration Training Allowances.

LATE POLICY:
Without prior arrangement, late policies will be accepted with the following conditions:

a. The final grade of the assignment will be reduced by 10% (10 points out of 100) for each calendar day late.
b. Late work will not be accepted after day 4 and will receive a score of 0.

	On Time	**1 Day Late**	**2 Days Late**	**3 Days Late**	**4 Days Late**	**≥ 5 Days Late**
Maximum Score	100%	90%	80%	70%	60%	0%

Academic Advising

At Johnson College, academic advising provides students with the opportunity to build a relationship with their advisor for the purpose of gaining assistance in planning their educational career, in learning skills needed for academic success, and in learning how to access the variety of resources and services available to them on campus.

Academic advising is a collaborative educational process whereby students and their advisors are partners in meeting the learning outcomes, ensuring student academic success, and outlining the steps for achievement of the students' personal, academic, and career goals. This advisor/student partnership requires participation and involvement of both the advisor and the student as it is built over the student's entire educational experience at the college. Both the student and the advisor have clear responsibilities for ensuring the advising partnership is successful.

Advisor Responsibilities - What you can expect from your advisor:

- Understand and effectively communicate the curriculum, graduation requirements, and college policies through use of the course catalog and student Portal
- Encourage and support you as you gain the skills to develop a clear and attainable educational plan
- Provide you with information about strategies for utilizing college resources and services
- Monitor and accurately document your progress toward meeting your academic goals and graduation requirements

- Be accessible for meetings with you via office hours for advising; For distance education classes, be accessible for meetings with you via office hours for advising, telephone, email, or web access
- Enter advising information such as date and time of advising as well as classes you advised the student to register for in the student's Portal
- Maintain confidentiality

Advisee Responsibilities - What you are expected to do:

- Schedule appointments with me during each semester and come prepared to each appointment with questions pertaining to fulfilling the graduation requirements
- Learn how to use the course catalog and student Portal to select courses that fulfill your educational plan
- Ask questions if you don't understand an issue or have a specific concern
- Keep a personal record of your progress toward meeting the graduation requirements
- Register for the classes that you were advised to register for
- Accept responsibility for your decisions

Below is a listing of procedures necessary to achieve these goals.

- Each fall semester the spring schedule is posted on the Johnson College website in September and each spring semester the fall schedule is posted in February.
- The registrar notifies the students that the respective schedules have been posted on D2L and the student portal.
- Meeting with your advisor is a requirement for all students. Students who do not meet with their advisor will have an advising hold place on their portal. This hold prevents the student from registering until s/he has met with the advisor who will clear the student for registration.
- The official advising period typically starts in early November (for upcoming spring semester) and early March (for the upcoming fall semester). However, students are encouraged to meet with their advisor once the official schedule has been posted.
- Registration is broken down into 3 sections: priority registration, sophomore registration and freshmen registration. Registration is open to the student in mid-November and early April.
- It is the responsibility of the student to ensure that s/he is following the suggested program outline and meeting all program requirements for graduation. Failure to do so may result in extending their program of study.
- Once the registration period is opened, registration is on a first come, first served basis. Therefore, it is in the best interest of the student to complete his or her registration as quickly as possible.
- If a student has a bursar hold, s/he would be notified of the hold by the respective department or the advisor. The student must satisfy these holds before proceeding with the registration process. Consultation with the advisor may assist on how this can be accomplished
- The advisor and students should discuss any current courses where the possibility of not maintaining academic progress may occur. The advisor and the student

must discuss changes to the student's schedule that may occur due to unsatisfactory progress in a course. They should also discuss the possible implications to the student's program of study. This may include but limited to seeing Financial Aid concerning Student Academic Progress (SAP), extension of the students program of study, eligibility for internships or clinical assignments, etc.

- Students participating in priority registration will be notified by the Registrar of the time and dates for this registration. It is the responsibility of the student to schedule a meeting with his/her advisor to discuss classes and to register for classes during the allotted timeframe. Students who do not comply with these procedures will have to register during the alternative times set for all other students.
- The student is responsible to make an appointment with their advisor during the advisor's office hours. The student should come to the meeting with a predetermined schedule and degree audit to review and discuss with the advisor for the upcoming semester.
- The advisor will review each student's schedule and advise the student on which classes they need to register to meet academic requirements towards graduation.
- The advisor will make notes in the student's SIS as to what classes the student was advised to take. This process will release the student from the advisor and allow him/her to register for classes.

If the student misses the appropriate times for registration, it is still the student's responsibility to meet with his/her advisor. Students failure to register within the college registration period will result in a late registration fee.

ACADEMIC STATUS

Academic Probation

At the end of each semester, the Office of Academics and the Office of the Registrar will review students Grade Point Average (GPA) to determine academic status within the college. 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

Student who do not meet the satisfactory GPA requirement will be place on academic probation. Students will meet with the Academic Probation Committee prior to the next 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

An inability to meet the minimum CGPA requirement specified above could result in academic termination.
*Health Science (PTA, RAD, & VET) probation policies can be found in programmatic handbooks.

Students who are in danger of not meeting the CGPA requirement are advised to meet first with their academic advisor, then with Financial Aid, and then with the Office of the Registrar to discuss options. Students on financial aid who fail to meet the completion rate (67% of registered courses) and GPA requirements and/or fail to complete their degree within 150% of the program timeframe may jeopardize their financial aid packages.

Academic Integrity

The faculty of Johnson College has a high regard for the integrity of the educational process; therefore, the college 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:

1. Acting at all times with integrity
2. Accepting responsibility for one's work
3. Specifying contributing members of a group, where group work is authorized
4. Naming references, where reference use is authorized
5. Submitting work which is the sole creation of the student, when neither group work nor reference use is authorized
6. Never contributing to the academic dishonesty of others

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

1. Cheating
2. Plagiarism
3. Submitting work which does not cite references used when working in courses where reference materials are authorized
4. Submitting work which does not cite contributing members of the group when working in courses where group work is authorized
5. 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
6. Sharing of digital work (flash drives, googledocs, etc.)
7. Facilitating acts of academic dishonesty by others
8. Tampering with academic work of others

This will result in any or all of the following penalties:

First Offense: An "F" for the assignement
Second Offense: Automatic failure of the Course
Third Offense: Referral to judicial authorities. Penalties imposed by the Office of Academics may include up to termination from the college.

Appealing a Grade

If a student wishes to question or appeal a grade, the student will, prior to the next semester. Communication will be made using the College email accounts. Students wishing to appeal a grade must follow the follow procedure:

1. Contact the instructor for an explanation of the grade determination. The instructor of the course will review how the grade was determined. If a grade change is warranted, instructor will complete and submit a grade change form.
2. If not satisfied with the grade and explanation, the student will then appeal to the program director of program division. The program director will review the grade determination with the course instructor, and then meet with the student to explain the outcome of the appeal.
3. A student who remains unsatisfied with the results of the appeal must, prior to the end of the semester, submit a letter of appeal to the Office of Academics. The letter must include a summary of the meetings with the instructor and the appeal results, as well as a rationale for the appeal. After discussing the appeal with the instructor

and the program director, the Chief Academic Officer will meet with the student to explain the final decision.

Academic Termination

Johnson College makes every effort to assist students in achieving their academic goals; however, the College reserves the right to dismiss students due to poor academic performance or violation of academic code of conduct. An inability to meet the minimum CGPA requirement for two consective semester will result in termination from the college.

In such cases, the Office of Academics will notify students of their dismal:

- Meeting with academic advisor
- Letter of termination

Terminated students will still be held responsible for all financial obligations.

Academic Dismissal from a Program of Study

The Physical Therapist Assistant, Radiologic Techonology, and Veterinary Technology programs have specific Grade Point Average (GPA) requirements for their major courses. Specific dismissal policies for Physical Therapist Assistant, Radiologic Technology and Veterinary Technology students can be found in their respective Programmatic Handbooks.

Student Complaint / Grievance Procedure

Johnson College makes every effort to resolve student complaints internally, using policies and procedures. It is expected that students will fully utilize any and all such administrative procedures to address concerns and/or complaints in as timely a manner as possible. The college defines a grievance as an issue related to a perceived academic or non-academic injustice, whereby a student believes she/he has been deal with arbitrarily, unfairly or in a way that violates established laws, rules, policies, by an employee of the college.

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.

For procedures regarding:
Non-Academic Complaints: refers to incidents of unprofessional behavior and other complaints that are not of an academic grade concern. Contact the Human Resource Department

Americans with Disabilities Act: refer to
https://johnson.edu/disability-services/

Harassment or Discrimination: refer to
https://www.johnson.edu/prospective-students/about/heoa-student-customer-information/

Affirmative Action: refer to Human Resources

Family Educational Rights and Privacy Act (FERPA): refer to the Student Privacy and Release of Information policy

Criminal Activity: Complaints involving matters of a criminal nature, such as assault, battery, and theft should be directed to Scranton Police Department 570-348-4130 or
http://www.scrantonpa.gov/

Institutional Complaint: refer to
https://www.msche.org/complaints/

Academic Complaints: The Office of Academic will respond to any academic complaint within 48 hours of written notification. Student should follow the procedure set forth by the Office of Academics.

Graduation Requirements

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

- Completion of Student Success Seminar (SSS 101)
- Completion of course curriculum as stated in entry to programs, minimum of 60 credits
- Completion of a minimum of 30 credits at Johnson College
- Completion of clinical/internship for students in the Biomedical Equipment Technology, Physical Therapist Assistant, Radiologic Technology and Veterinary Technology programs
- Completion of ePortfolio program requirements
- 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 a certificate program:

- Completion of the courses in the scope and sequence for Certificate programs
- 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 within six (6) credits of completion of their degree may have the opportunity to participate in commencement ceremony activities. An exception can be made, however students must register or prove they have registerered for the required courses necessary.

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. Students with a minimum GPA of a 3.0 for credits earned at Johsnon College will be eligible for departmental honors.

Citations conferred by the College for exceptional academic achievement and completion of a challenging curriculum are:

- *Summa Cum Laude* >= 3.9 cumulative GPA with a minimum of 45 credits
- *Magna Cum Laude* >= 3.8 cumulative GPA with a minimum of 45 credits
- *Cum Laude* >= 3.7 cumulative GPA with a minimum of 45 credits

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

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, Johnson Activity Group, 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 at Awards Night.

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.

PROGRAM OBJECTIVES

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 advisors in order to ensure completion of graduation requirements. It is the students responsibility to follow the curriculum guides as reflect on their advising sheet.

Courses designated with a green leaf  prepares students with skills labeled by the Commonwealth of Pennsylvania as those used in traditional or evolving green occupations.

General Education - Mission

General Education Department at Johnson College provides students with skills needed in the real world to develop professional competency through critical thinking and problem solving, written and oral communication, scientific and quantitative reasoning, technological competency and information literacy and equity and inclusion.

Johnson College General Education Grid	
Category	**Courses**
Arts	ART 101, ART 103, ART 105, ART 110, ART 115, ART 116, ART 125, ART 126, ART 129, ART 130, HMN 101
Communication	COM 211, COM 212, CSM 105, ENG 101, ENG 105
Humanities	CSM 105, ENT 101, HMN 101, SSS 101
Mathematics	MAT 100, MAT 101,MAT 105, MAT 110, MAT 121, MAT 123, MAT 201, MAT 202, MAT 205, PHY 101, SCI 150, SCI 201
Science	BIO 105, BIO 107, BIO 108, BIO 109, BIO 110, CHM 101, CHM 102, PHY 101, PHY 120, SCI 150, SCI 160, SCI 201
Social Science	BUS 101, CSM 105, ECO 101, ENT 101, PSY 101, PSY 105, SOC 101
Technology	CPT 101, CPT 210, MAT 121, SCI 201

Art		
ART 101	Blueprint Reading for Welders	1
ART 103	Intro to Print Reading and Shop Drawings (CCM)	1
ART 105	Blueprint / Schematic Reading (AMET)	3
ART 110	Contract Drawings (ADT, CCM, ECM, HVAC)	3
ART 115	Web Programming, Client Side Scripting	2
ART 116	Web Programming, Client Side Scripting Lab	1
ART 125	3D Printing	2
ART 126	3D Printing Lab	1
ART 129	Intro. to Woodcraft and Design	2
ART 130	Intro. to Woodcraft and Design Lab	1
HMN 101	Introduction to Humanities	3
Communication		
COM 211	Communication Theory	3
COM 212	Public Speaking	3
CSM 105	Customer Service	3
ENG 101	English Composition	3
ENG 105	Industry Communication	3
Humanities		
CSM 105	Customer Service	3
ENT 101	Entrepreneurship	3
HMN 101	Introduction to Humanities	3
SSS 101	Student Success Seminar	1
Mathematics		
MAT 100	Math for Welders	3
MAT 101	College Algebra I & Trig	3
MAT 105	Math for Transportation Division	3
MAT 110	Trigonometry	3
MAT 121	Introduction to Statistics	3
MAT 123	Math for Carpenters	1

MAT 201	College Algebra II & Trig	3
MAT 202	Pre-Calculus	3
MAT 205	Medicine and Math	3
PHY 101	Introduction to Physics	3
SCI 150	How It Works	3
SCI 201	Statics and Strengths of Materials	3
Science		
BIO 105	Physiology and Anatomy (BET)	3
BIO 107	Human Anatomy and Physiology I	3
BIO 108	Human Anatomy and Physiology I Lab	1
BIO 109	Human Anatomy and Physiology II	3
BIO 110	Human Anatomy and Physiology II Lab	1
CHM 101	Chemistry	3
CHM 102	Chemistry Lab	1
PHY 101	Introduction to Physics	3
PHY 120	Physical Science	3
SCI 150	How It Works	3
SCI 160	Sustainable Design	
SCI 201	Statics and Strengths of Materials	3
Social Science		
BUS 101	Introduction to Business	3
CSM 105	Customer Service	3
ECO 101	Introduction to Economics	3
ENT 101	Entrepreneurship	3
PSY 101	General Psychology	3
PSY 105	Industrial and Organizational Psychology	3
SOC 101	Introduction to Sociology	3
Technology		
CPT 101	Microcomputer I	3
CPT 210	Microcomputer II	3
MAT 121	Introduction to Statistics	3
SCI 201	Statics and Strengths of Materials	3

Building Trades and Technology -
Architectural Drafting & Design Technology

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

Architectural Drafting & Design Technology
Major Courses (40/41 Credits)

ADT 151	Introduction to Computer Assisted Drafting (CAD)	2
ADT 152	Introduction to Computer Assisted Drafting (CAD) Lab	2
ADT 153	Residential Planning	2
ADT 154	Residential Planning Lab	2
ADT 155	Residential Cost Estimating	3
ADT 251	Building Information Modeling, Residential	2
ADT 252	Building Information Modeling, Residential Lab	2
ADT 253	Codes and Ordinances	3
ADT 255	Specifications	3
ADT 257	Building Information Modeling, Commercial	2
ADT 258	Building Information Modeling, Commercial Lab	2
ADT 259	Commercial Cost Estimating	3
SCI 160	Sustainability Design	3
or INT 299	Internship	4
BTT ##	Building Trades Elective	3
BUS 110	Business Research and Report Writing	3
MAT 110	Trigonometry	3

General Education - (22 Credits)

ART 110	Contract Drawings	3
BUS 101	Introduction to Business	3
or CSM 105	Customer Service and Our World	
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
COM 212	Public Speaking	3
MAT 101	College Algebra I and Trigonometry	3
SCI 201	Statics & Strength of Materials	3
SSS 101	Student Success Seminar	1

Minimum Credits to Graduate **62**

Architectural Drafting & Design Technology
Associate in Applied Science (AAS)
Semester Program Outline

Semester 1		**Credits**
ADT 151	Introduction to Computer Assisted Drafting (CAD)	2
ADT 152	Introduction to Computer Assisted Drafting (CAD) Lab	2
ART 110	Contract Drawings	3
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
MAT 101	College Algebra I and Trigonometry	3
SSS 101	Student Success Seminar	1
		17
Semester 2		
ADT 153	Residential Planning	2
ADT 154	Residential Planning Lab	2
ADT 155	Residential Cost Estimating	3
BUS 101	Introduction to Business	3
or CSM 105	Customer Service and Our World	
MAT 110	Trigonometry	3
SCI 201	Statics & Strength of Materials	3
		16
Semester 3		
ADT 251	Building Information Modeling, Residential	2
ADT 252	Building Information Modeling, Residential Lab	2
ADT 253	Codes and Ordinances	3
ADT 255	Specifications	3
BTT ##	Building Trades Elective	3
COM 212	Public Speaking	3
		16
Semester 4		
ADT 257	Building Information Modeling, Commercial	2
ADT 258	Building Information Modeling, Commercial Lab	2
ADT 259	Commercial Cost Estimating	3
SCI 160	Sustainability Design	3
or INT 299	Internship	4
BUS 110	Business Research and Report Writing	3
		13/14

Minimum Credits to Graduate	**62**

Building Trades and Technology - Carpentry & Cabinetmaking Technology

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
- Become familiar with reading a tape measure.
- Learn the importance of being on time and ready to work.
- Have the opportunity to participate in an internship to gain real-world experience.

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:

- Observe job site, shop safety and tool safety practices.
- Safely work with scaffolding and ladders.
- Repair tools and power cords to keep the jobsite safe.
- Demonstrate the ability to frame walls, floors and roofs.

Goal 3: The graduate can examine the pre-planning phases of construction through project completion 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
- Learn basic communication skills to help with customer relations.

Goal 4: The program will teach students the proper construction of kitchen cabinets.

Student Learning Outcomes – Students will:

- Students will learn how to construct cabinet doors.
- Students will layout and cut material for faceframes.
- Students will construct cabinet carcasses and attach faceframes.

Carpentry and Cabinetmaking Technology
Major Courses (42/43 Credits)

ADT 155	Residential Cost Estimating	3
ART 103	Introduction to Print Reading and Shop Drawings	1
BTT ###	Construction Elective	3
OR		
INT299	Internship	4
BTT 101	Introduction to the Construction Trades	2
BTT 102	Introduction to the Construction Trades Lab	3
BTT 149	Construction Safety	1
CCM 169	Cabinet and Component Construction	2
CCM 170	Cabinet and Component Construction Lab	4
CCM 231	Site Layout, Foundations and Framing Principles	2
CCM 232	Site Layout, Foundations and Framing Principles Lab	4
CCM 233	Interior/Exterior Finishes	2
CCM 234	Interior/Exterior Finishes Lab	4
CCM 235	Roof Framing and Stair Building	2
CCM 236	Roof Framing and Stair Building Lab	4
MAT 110	Trigonometry	3
MAT 123	Math for Carpenters	1

General Education (22 Credits)

ART 110	Contract Drawings	3
BUS 101	Introduction to Business	3
or CSM 105	Customer Service and Our World	
COM ###	Communication Elective	3
CPT 101	Microcomputers I	3
ENG 101	English Composition I	3
MAT ###	MAT 101 or higher *(course determined by placement test)*	3
SCI ###	Science Elective	3
SSS 101	Student Success Seminar	1

Minimum Credits to Graduate **64**

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

Semester 1		**Credits**
BTT 101	Introduction to the Construction Trades	2
BTT 102	Introduction to the Construction Trades Lab	3
BTT 149	Construction Safety	1
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
MAT ###	MAT 101 or higher *(course determined by placement test)*	3
SSS 101	Student Success Seminar	1
		17
Semester 2		
ART 103	Introduction to Print Reading and Shop Drawings	1
CCM 169	Cabinet and Component Construction	2
CCM 170	Cabinet and Component Construction Lab	4
BUS 101	Introduction to Business	3
or CSM 105	Customer Service and Our World	
MAT 123	Math for Carpenters	1
SCI ###	Science Elective	3
		14
Semester 3		
ART 110	Contract Drawings	3
CCM 231	Site Layout, Foundations, and Framing Principles	2
CCM 232	Site Layout, Foundations, and Framing Principles Lab	4
CCM 233	Interior/Exterior Finishes	2
CCM 234	Interior/Exterior Finishes Lab	4
MAT 110	Trigonometry	3
		18
Semester 4		
ADT 155	Residential Cost Estimating	3
BTT ###	Construction Elective	3
OR		
INT 299	Internship	4
CCM 235	Roof Framing and Stair Building	2
CCM 236	Roof Framing and Stair Building Lab	4
COM ###	Communication Elective	3
		15/16

Minimum Credits to Graduate **64**

Building Trades and Technology -
Electrical Construction & Maintenance Technology

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 graduate 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

Electrical Construction & Maintenance Technology
Major Courses (43 Credits)

AMT 253	Programmable Logic Controllers	2
AMT 254	Programmable Logic Controllers Lab	2
BTT ###	Construction Elective	3
BTT 101	Introduction to the Construction Trades	2
BTT 102	Introduction to the Construction Trades Lab	3
BTT 149	Construction Safety	1
BTT 151	Fundamentals of Electricity	2
BTT 152	Fundamentals of Electricity Lab	1
BTT 251	Motors and Controls	2
BTT 252	Motors and Controls Lab	4
ECM 161	Residential Wiring	2
ECM 162	Residential Wiring Lab	4
ECM 271	Electrical Grounding, Bonding, & Service Installation	2
ECM 272	Electrical Grounding, Bonding, & Service Installation Lab	1
ECM 273	National Electric Code Interpretation	1
ECM 275	Commercial Wiring	2
ECM 276	Commercial Wiring Lab	1
ECM 277	Industrial Maintenance and Mechanics	2
ECM 278	Industrial Maintenance and Mechanics Lab	1
ECM 259	Applied Practice and Special Topics	1
ECM 260	Applied Practice and Special Topics Lab	3
or INT 299	Internship	

General Education (22 Credits)

ART 110	Contract Drawings	3
BUS 101	Introduction to Business	3
or CSM 105	Customer Service and Our World	
COM ###	Communication Elective	3
CPT 101	Microcomputers I	3
ENG 101	English Composition I	3
MAT ###	MAT 101 or higher *(course determined by placement test)*	3
SCI ###	Science Elective	3
SSS 101	Student Success Seminar	1

Minimum Credits to Graduate **65**

Electrical Construction & Maintenance Technology
Associate in Applied Science (AAS)
Semester Program Outline

Semester 1		**Credits**
BTT 101	Introduction to the Construction Trades	2
BTT 102	Introduction to the Construction Trades Lab	3
BTT 149	Construction Safety	1
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
MAT ###	MAT 101 or higher *(course determined by placement test)*	3
SSS 101	Student Success Seminar	1
		17
Semester 2		
BTT ###	Construction Elective	3
BTT 151	Fundamentals of Electricity	2
BTT 152	Fundamentals of Electricity Lab	1
ECM 161	Residential Wiring	2
ECM 162	Residential Wiring Lab	4
BUS 101	Introduction to Business	3
or CSM 105	Customer Service and Our World	
SCI ###	Science Elective	3
		18
Semester 3		
AMT 253	Programmable Logic Controllers	2
AMT 254	Programmable Logic Controllers Labb	2
ART 110	Contract Drawings	3
COM ###	Communication Elective	3
ECM 271	Electrical Grounding, Bonding, & Service Installation	2
ECM 272	Electrical Grounding, Bonding, & Service Installation Lab	1
ECM 273	National Electric Code Interpretation	1
ECM 275	Commercial Wiring	2
ECM 276	Commercial Wiring Lab	1
		17
Semester 4		
BTT 251	Motors and Controls	2
BTT 252	Motors and Controls Lab	4
ECM 277	Industrial Maintenance and Mechanics	2
ECM 278	Industrial Maintenance and Mechanics Lab	1
ECM 259	Applied Practice and Special Topics	1
ECM 260	Applied Practice and Special Topics Lab	3
or INT 299	Internship	
		13
Minimum Credits to Graduate		**65**

Building Trades and Technology -
Heating Ventilation & Air Conditioning Technology

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
Employment opportunities consist of HVAC installers, controls technicians, service technicians, maintenance mechanics, plumbers, engineers, programmers, research development, management, sales, and dispatch. But let's be clear - this is an exciting, evolving field that requires hard work, dedication, innovation and creative problem solving.

Program Learning Goals:

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

Student Learning Outcomes - Students will:

- Install various heating, air conditioning and refrigeration equipment.
- Pipe a hydronic heating system
- Perform preventive maintenance on heating, air conditioning and refrigeration systems
- Properly diagnose and repair various HVAC equipment

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

Student Learning Outcomes - Students will:

- Perform tasks in accordance with OSHA guidelines
- Exhibit proper usage of personal protective equipment (PPE)
- Identify safety concerns when dealing with high pressure refrigerants
- Demonstrate safe practices while working with a multimeter.

Goal 3: Graduates will acquire a well-rounded foundation of knowledge in the Building Trades Industry.

Student Learning Outcomes - Students will:

- Demonstrate entry-level competency in each HVAC, Electrical and Carpentry.
- Demonstrate professionalism between classmates and instructors.

Heating Ventilation & Air Conditioning Technology
Major Courses (42 Credits)

BTT ###	Construction Elective	3
BTT 101	Introduction to the Construction Trades	2
BTT 102	Introduction to the Construction Trades Lab	3
BTT 149	Construction Safety	1
BTT 151	Fundamentals of Electricity	2
BTT 152	Fundamentals of Electricity Lab	1
BTT 251	Motors and Controls	2
BTT 252	Motors and Controls Lab	4
HAC 175	Pipefitting	2
HAC 176	Pipefitting Lab	1
HAC 189	Refrigeration	2
HAC 190	Refrigeration Lab	4
HAC 285	Air Conditioning Systems	2
HAC 286	Air Conditioning Systems Lab	2
HAC 283	Heating System Design & Installation	2
HAC 284	Heating System Design & Installation Lab	4
HAC 289	Applied Practice and Special Topics	1
HAC 290	Applied Practice and Special Topics Lab	3
or INT 299	Internship	

General Education (22 Credits)

ART 110	Contract Drawings	3
BUS 101	Introduction to Business	3
or CSM 105	Customer Service and Our World	
COM ###	Communication Elective	3
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
or ENG 105	Industry Communication	
MAT ###	MAT 101 or higher *(course determined by placement test)*	3
PHY 101	Introductory Physics	3
SSS 101	Student Success Seminar	1

Minimum Credits to Graduate **64**

Heating Ventilation & Air Conditioning Technology

Associate in Applied Science (A.A.S.)

Semester Program Outline

Semester 1		**Credits**
BTT 101	Introduction to the Construction Trades	2
BTT 102	Introduction to the Construction Trades Lab	3
BTT 149	Construction Safety	1
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
or ENG 105	Industry Communication	
MAT 101	College Algebra I and Trigonometry	3
SSS 101	Student Success Seminar	1
		17
Semester 2		
BTT 151	Fundamentals of Electricity	2
BTT 152	Fundamentals of Electricity Lab	1
HAC 175	Pipefitting	2
HAC 176	Pipefitting Lab	1
HAC 189	Refrigeration	2
HAC 190	Refrigeration Lab	4
PHY 101	Introductory Physics	3
		15
Semester 3		
ART 110	Contract Drawings	3
COM ###	Communication Elective	3
HAC 283	Heating System Design & Installation	2
HAC 284	Heating System Design & Installation Lab	4
HAC 285	Air Conditioning Systems	2
HAC 286	Air Conditioning Systems Lab	2
		16
Semester 4		
BUS 101	Introduction to Business	3
or CSM 105	Customer Service and Our World	
BTT ###	Construction Elective	3
BTT 251	Motors and Controls	2
BTT 252	Motors and Controls Lab	4
HAC 289	Applied Practice and Special Topics	1
HAC 290	Applied Practice and Special Topics Lab	3
or INT 299	Internship	
		16
Minimum Credits to Graduate		**64**

Electronic and Industrial Division -
Advanced Manufacturing Technology

Program Objective
The Advanced Manufacturing 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

Advanced Manufacturing Technology
Major Courses (42 Credits)

AMT 101	Principles for Advanced Manufacturing	3
AMT 151	Fundamentals of Metal Cutting	2
AMT 152	Fundamentals of Metal Cutting Lab	1
AMT 153	Subtractive Manufacturing	1
AMT 154	Subtractive Manufacturing Lab	2
AMT 155	Introduction to Electricity	2
AMT 156	Introduction to Electricity Lab	1
AMT 157	Sensors and Systems in Automation	2
AMT 158	Sensors and Systems in Automation Lab	1
AMT 251	Computer Numerical Control Machining	1
AMT 252	Computer Numerical Control Machining Lab	2
AMT 253	Programmable Logic Controllers	2
AMT 254	Programmable Logic Controllers Lab	2
AMT 255	Additive Manufacturing	2
AMT 256	Additive Manufacturing Lab	1
AMT 257	Computer Aided Design/Computer Aided Manufacturing	2
AMT 258	Computer Aided Design/Computer Aided Man. Lab	1
AMT 259	Automation and Robotics	2
AMT 260	Automation and Robotics Lab	2
AMT 261	Systems Integration (Capstone Project)	1
AMT 262	Systems Integration (Capstone Project) Lab	3
or INT 299	Internship	4
LOG 291	Total Quality Management	3
MAT 121	Introduction to Statistics	3

General Education (22 Credits)

ART 105	Blueprint / Schematic Reading	3
BUS 101	Introduction to Business	3
COM 212	Public Speaking	3
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
MAT 101	College Algebra I and Trigonometry	3
PHY 101	Introductory Physics	3
SSS 101	Student Success Seminar	1

Minimum Credits to Graduate **64**

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

Semester 1		**Credits**
AMT 101	Principles for Advanced Manufacturing	3
AMT 151	Fundamentals of Metal Cutting	2
AMT 152	Fundamentals of Metal Cutting Lab	1
AMT 155	Introduction to Electricity	2
AMT 156	Introduction to Electricity Lab	1
ART 105	Blueprint / Schematic Reading	3
MAT 101	College Algebra I and Trigonometry	3
SSS 101	Student Success Seminar	1
		16
Semester 2		
AMT 153	Subtractive Manufacturing	1
AMT 154	Subtractive Manufacturing Lab	2
AMT 157	Sensors and Systems in Automation	2
AMT 158	Sensors and Systems in Automation Lab	1
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
MAT 121	Introduction to Statistics	3
		15
Semester 3		
AMT 251	Computer Numerical Control Machining	1
AMT 252	Computer Numerical Control Machining Lab	2
AMT 253	Programmable Logic Controllers	2
AMT 254	Programmable Logic Controllers Lab	2
BUS 101	Introduction to Business	3
COM 212	Public Speaking	3
PHY 101	Introductory Physics	3
		16
Semester 4		
AMT 255	Additive Manufacturing	2
AMT 256	Additive Manufacturing Lab	1
AMT 257	Computer Aided Design / Computer Aided Manufacturing	2
AMT 258	Computer Aided Design / Computer Aided Man. Lab	1
AMT 259	Automation and Robotics	2
AMT 260	Automation and Robotics Lab	2
AMT 261	Systems Integration (Capstone Project)	1
AMT 262	Systems Integration (Capstone Project) Lab	3
or INT 299	Internship	4
LOG 291	Total Quality Management	3
		17
Minimum Credits to Graduate		**64**

Electronic and Industrial Division - Biomedical Equipment Technology

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: Students will achieve, through study and hands-on learning, the skills necessary to obtain an entry-level Biomedical Technician position when they graduate.

Student Learning Outcomes - Students will:

- Demonstrate the professionalism, knowledge, skills and abilities (KSA's) required of a BMET while completing a 200 hour biomedical internship.
- Acquire the broad knowledge necessary for success as a Biomedical Technician in their core (EET and BET) freshman and sophomore studies.
- Demonstrate competency in routine biomedical maintenance tasks by the end of their final semester.

Goal 2: Students will prove their knowledge of and ability to perform many equipment management tasks required in the Healthcare Technology Management (HTM) field prior to graduation.

Student Learning Outcomes - Students will:

- Demonstrate skills in using a computerized medical maintenance software system through successfully completing assigned labs that include inventory, work order generation and completion, and preventative maintenance scheduling
- Demonstrate competence in HTM tasks such as completing acceptance inspections for new equipment, determining preventative maintenance requirements, rating a device's risk level depending on equipment function and location within the healthcare environment, etc.

Goal 3: Students will prove 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 by passing the Capstone Practical Test with a grade of 80% or higher.
- Demonstrate knowledge and skills required to verify performance per manufacturer's specifications of several selected medical devices by passing the Capstone Practical Test with a grade of 80% or higher.

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
A 200 hour internship at an approved site may be completed after a student has completed 30 credits and receives approval from the Department Chairperson. Students are required to complete an internship, and 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.

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. The schedule for meeting the requirements of this experience will be arranged between the student, faculty member and internship site.

Biomedical Equipment Technology
Major Courses (44 Credits)

EET 161	DC Electricity and Instrumentation	2
EET 162	DC Electricity and Instrumentation Lab	1
EET 163	Alternating Current and Passive Devices	2
EET 164	Alternating Current and Passive Devices Lab	1
EET 165	Digital Electronics	2
EET 166	Digital Electronics Lab	2
EET 167	Introduction to Semiconductors	2
EET 168	Introduction to Semiconductors Lab	1
EET 169	Integrated Circuits & Thyristors	2
EET 170	Integrated Circuits & Thyristors Lab	1
BET 231	Medical Equipment Standards and Testing	2
BET 232	Medical Equipment Standards and Testing Lab	2
BET 233	Physiological Monitoring Devices	2
BET 234	Physiological Monitoring Devices Lab	2
BET 235	Life Support Systems	2
BET 236	Life Support Systems Lab	2
BET 237	Specialized Medical Systems	2
BET 238	Specialized Medical Systems Lab	1
BET 299	Internship	4
BIO 105	Physiology and Anatomy	3
CIT 183	Network Architectures, Principles, and Protocols	2
CIT 184	Network Architectures, Principles, and Protocols Lab	1
PHY 101	Introductory Physics	3

General Education (23 Credits)

ART ###	Art Elective	3
CHM 101	Chemistry I	3
CHM 102	Chemistry I Lab	1
COM 212	Public Speaking	3
CPT 101	Microcomputer I	3
CSM 105	Customer Service and Our World	3
ENG 101	English Composition I	3
MAT 110	Trigonometry	3
SSS 101	Student Success Seminar	1

Minimum Credits to Graduate **67**

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

Semester 1		**Credits**
EET 161	DC Electricity and Instrumentation	2
EET 162	DC Electricity and Instrumentation Lab	1
EET 163	Alternating Current and Passive Devices	2
EET 164	Alternating Current and Passive Devices Lab	1
EET 165	Digital Electronics	2
EET 166	Digital Electronics Lab	2
CHM 101	Chemistry I	3
CHM 102	Chemistry I Lab	1
MAT 110	Trigonometry	3
SSS 101	Student Success Seminar	1
		18
Semester 2		
EET 167	Introduction to Semiconductors	2
EET 168	Introduction to Semiconductors Lab	1
EET 169	Integrated Circuits & Thyristors	2
EET 170	Integrated Circuits & Thyristors Lab	1
BIO 105	Physiology and Anatomy	3
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
PHY 101	Introductory Physics	3
		18
Semester 3		
BET 231	Medical Equipment Standards and Testing	2
BET 232	Medical Equipment Standards and Testing Lab	2
BET 233	Physiological Monitoring Devices	2
BET 234	Physiological Monitoring Devices Lab	2
CIT 183	Network Architectures, Principles, and Protocols	2
CIT 184	Network Architectures, Principles, and Protocols Lab	1
CSM 105	Customer Service and Our World	3
		14
Semester 4		
BET 235	Life Support Systems	2
BET 236	Life Support Systems Lab	2
BET 237	Specialized Medical Systems	2
BET 238	Specialized Medical Systems Lab	1
BET 299	Internship	4
COM 212	Public Speaking	3
ART ###	Art Elective	3
		17
Minimum Credits to Graduate		**67**

Electronic and Industrial Division - Computer Information Technology

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.

Computer Information Technology
Major Courses (39/40 Credits)

CIT 181	Computer Hardware and Operating Systems	2
CIT 182	Computer Hardware and Operating Systems Lab	1
CIT 183	Network Architectures, Principles, and Protocols	2
CIT 184	Network Architectures, Principles, and Protocols Lab	1
CIT 185	TCP/IP Network Design Configuration, Maintenance	2
CIT 186	TCP/IP Network Design Configuration, Maintenance Lab	1
CIT 187	Linux Networking Service and Support	2
CIT 188	Linux Networking Service and Support Lab	1
CIT 189	Information System Security Design, Administration	2
CIT 190	Information System Security Design, Administration Lab	1
CIT 281	LAN/WAN Design and Maintenance Principles	2
CIT 282	LAN/WAN Design and Maintenance Principles Lab	1
CIT 283	Server and Network Operating System Principles	2
CIT 284	Server and Network Operating System Principles Lab	1
CIT 285	Advanced Network Operating System Principles	2
CIT 286	Advanced Network Operating System Principles Lab	1
CIT 289	Web Programming, Server Side Scripting	2
CIT 290	Web Programming, Server Side Scripting Lab	1
or INT 299	Internship	4
CSM 105	Customer Service and Our World	3
DAT 201	Database: Principles & Applications	3
MAT 201	College Algebra II and Trigonometry	3
PRG 101	Programming for the Enterprise	3

General Education (22 Credits)

ART 115	Web Programming, Client Side Scripting	2
ART 116	Web Programming, Client Side Scripting Lab	1
BUS 101	Introduction to Business	3
COM 212	Public Speaking	3
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
MAT 101	College Algebra I and Trigonometry	3
SCI ###	Science Elective	3
SSS 101	Student Success Seminar	1

Minimum Credits to Graduate **61**

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

Semester 1		**Credits**
CIT 181	Computer Hardware and Operating Systems	2
CIT 182	Computer Hardware and Operating Systems Lab	1
CIT 183	Network Architectures, Principles, and Protocols	2
CIT 184	Network Architectures, Principles, and Protocols Lab	1
PRG 101	Programming for the Enterprise	3
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
SSS 101	Student Success Seminar	1
		16
Semester 2		
CIT 185	TCP/IP Network Design Configuration, Maintenance	2
CIT 186	TCP/IP Network Design Configuration, Maintenance Lab	1
CIT 187	Linux Networking Service and Support	2
CIT 188	Linux Networking Service and Support Lab	1
CIT 189	Information System Security Design, Administration	2
CIT 190	Information System Security Design, Administration Lab	1
BUS 101	Introduction to Business	3
MAT 101	College Algebra I and Trigonometry	3
		15
Semester 3		
CIT 281	LAN/WAN Design and Maintenance Principles	2
CIT 282	LAN/WAN Design and Maintenance Principles Lab	1
CIT 283	Server and Network Operating System Principles	2
CIT 284	Server and Network Operating System Principles Lab	1
CSM 105	Customer Service and Our World	3
DAT 201	Database: Principles & Applications	3
MAT 201	College Algebra II and Trigonometry	3
		15
Semester 4		
ART 115	Web Programming, Client Side Scripting	2
ART 116	Web Programming, Client Side Scripting Lab	1
CIT 285	Advanced Network Operating System Principles	2
CIT 286	Advanced Network Operating System Principles Lab	1
CIT 289	Web Programming, Server Side Scripting	2
CIT 290	Web Programming, Server Side Scripting Lab	1
or INT 299	Internship	4
COM 212	Public Speaking	3
SCI ###	Science Elective	3
		15/16

Minimum Credits to Graduate **64**

Electronic and Industrial Division - Electronic Engineering Technology

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 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.

Electronic Engineering Technology
Major Courses (43 Credits)

EET 161	DC Electricity and Instrumentation	2
EET 162	DC Electricity and Instrumentation Lab	1
EET 163	Alternating Current and Passive Devices	2
EET 164	Alternating Current and Passive Devices Lab	1
EET 165	Digital Electronics	2
EET 166	Digital Electronics Lab	2
EET 167	Introduction to Semiconductors	2
EET 168	Introduction to Semiconductors Lab	1
EET 169	Integrated Circuits & Thyristors	2
EET 170	Integrated Circuits & Thyristors Lab	1
EET 261	Communication Electronics	2
EET 262	Communication Electronics Lab	1
EET 263	Industrial Electronics	2
EET 264	Industrial Electronics Lab	1
EET 265	Applied Electronics Principles & Applications	2
EET 266	Applied Electronics Principles & Applications Lab	2
or INT 299	Internship	4
AMT 157	Sensors and Systems in Automation	2
AMT 158	Sensors and Systems in Automation Lab	1
AMT 253	Programmable Logic Controllers	2
AMT 254	Programmable Logic Controllers Lab	2
AMT 259	Automation and Robotics	2
AMT 260	Automation and Robotics Lab	2
CIT 183	Network Architectures, Principles, and Protocols	2
CIT 184	Network Architectures, Principles, and Protocols Lab	1
MAT 201	College Algebra II and Trigonometry	3

General Education (22 Credits)

ART 105	Blueprint / Schematic Reading	3
BUS 101	Introduction to Business	3
COM 212	Public Speaking	3
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
MAT 101	College Algebra I and Trigonometry	3
SCI ###	Science Elective	3
SSS 101	Student Success Seminar	1

Minimum Credits to Graduate **65**

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

Semester 1		**Credits**
EET 161	DC Electricity and Instrumentation	2
EET 162	DC Electricity and Instrumentation Lab	1
EET 163	Alternating Current and Passive Devices	2
EET 164	Alternating Current and Passive Devices Lab	1
EET 165	Digital Electronics	2
EET 166	Digital Electronics Lab	2
CPT 101	Microcomputer I	3
MAT 101	College Algebra I and Trigonometry	3
SSS 101	Student Success Seminar	1
		17
Semester 2		
EET 167	Introduction to Semiconductors	2
EET 168	Introduction to Semiconductors Lab	1
EET 169	Integrated Circuits & Thyristors	2
EET 170	Integrated Circuits & Thyristors Lab	1
AMT 157	Sensors and Systems in Automation	2
AMT 158	Sensors and Systems in Automation Lab	1
ART 105	Blueprint / Schematic Reading	3
ENG 101	English Composition I	3
SCI ###	Science Elective	3
		18
Semester 3		
AMT 253	Programmable Logic Controllers	2
AMT 254	Programmable Logic Controllers Lab	2
EET 261	Communication Electronics	2
EET 262	Communication Electronics Lab	1
EET 263	Industrial Electronics	2
EET 264	Industrial Electronics Lab	1
COM 212	Public Speaking	3
MAT 201	College Algebra II and Trigonometry	3
		16
Semester 4		
AMT 259	Automation and Robotics	2
AMT 260	Automation and Robotics Lab	2
BUS 101	Introduction to Business	3
CIT 183	Network Architectures, Principles, and Protocols	2
CIT 184	Network Architectures, Principles, and Protocols Lab	1
EET 265	Applied Electronics Principles & Applications	2
EET 266	Applied Electronics Principles & Applications Lab	2
or INT 299	Internship	4
		14
Minimum Credits to Graduate		**65**

Health Science Division -
Physical Therapist Assistant

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 Learning 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:

- Demonstrate competence implementing interventions identified in the plan of care under the direction and supervision of the physical therapist.
- Demonstrate competency performing components of data collection skills under the direction and supervision of the physical therapist.
- Complete thorough, accurate, logical, concise, timely, and legible documentation that meets the requirements of the facility.
- Pass the NPTAE at a rate consistent with CAPTE requirements within one year of graduation.

Goal 2: To ensure graduates are prepared to meet the needs and expectations of members of society who seek physical therapy services.

Student Learning Outcomes - Students will:

- Exhibit conduct that reflects practice standards that are legal, ethical, and safe.
- 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.
- Respect and act with consideration for individual differences, values, and preferences of peers and patients.

Goal 3: To ensure graduates are able to use problem solving and critical thinking skills to respond appropriately to clinical situations they may encounter as a physical therapist assistant**.**

Student Learning Outcomes - Students 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.
- Implement risk management strategies during all lab and clinical activities to ensure the safety of themselves and others.

Goal 4: To ensure graduates understand the value of volunteerism, leadership, and continued competence as physical therapist assistants.

Student Learning Outcomes - Students will:

- Develop a plan for continuing competence as a PTA.
- Participate in volunteer opportunities for professional and/or community organizations.

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 enrollment 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 or Next Generation Accuplacer score of 237 or higher in Arithmetic and Writing.
    b. GPA 2.67 or higher*
    c. 1 year of Algebra with a "B-" or higher*
    d. 2 years of English with a "B-" or higher*
    e. 1 year of Biology with a "B-" or higher*
    f. Recommended: 1 year of an additional life or physical science with a "B-" or higher*
    g. PTA Admissions Questionnaire
    h. 2 Recommendations (1 from a Physical therapist or physical therapist assistant)
    i. 16 hours of observation (½ inpatient setting, ½ outpatient setting)

(*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.

Special Enrollment Requirements
Prior to admission, students must complete 16 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, BIO 107, BIO 108, BIO 109, and BIO 110 with a grade of at least a B- (80) 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 (PTA 270, PTA 280, and PTA 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.

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	Intro. to Physical Therapy for the Physical Therapist Asst.	2
PTA 151	Patient Care	2
PTA 152	Patient Care Lab	1
PTA 153	Physical Therapy Procedures	2
PTA 154	Physical Therapy Procedures Lab	1
PTA 155	Principles of Therapeutic Exercise	1
PTA 156	Principles of Therapeutic Exercise Lab	1
PTA 221	Pathophysiology	2
PTA 223	Applied Kinesiology	3
PTA 224	Applied Kinesiology Lab	1
PTA 255	Interventions in Musculoskeletal	3
PTA 256	Interventions in Musculoskeletal Lab	1
PTA 257	Interventions in Neurology	3
PTA 258	Interventions in Neurology Lab	1
PTA 259	Topics in Rehabilitation	3
PTA 260	Topics in Rehabilitation Lab	1
PTA 270	Clinical Experience I (8 hours/15wks)	2
PTA 280	Clinical Experience II (40hrs/6wks)	5
PTA 290	Clinical Experience III (40hrs/6wks)	5
PTA 295	Professional Seminar	1
BIO 109	Human Anatomy & Physiology II	3
BIO 110	Human Anatomy & Physiology Lab II	1
MTR 100	Medical Terminology	1

General Education (23 credits)

ART ###	Art Elective	3
BIO 107	Human Anatomy &Physiology I	3
BIO 108	Human Anatomy & Physiology I Lab	1
COM 212	Public Speaking	3
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
MAT 121	Introduction to Statistics	3
PSY 101	General Psychology	3
SSS 101	Student Success Seminar	1

Minimum Credits to Graduate **69**

Physical Therapist Assistant

Associate in Science (AS)

Semester Program Outline

Semester 1		**Credits**
BIO 107	Human Anatomy & Physiology I	3
BIO 108	Human Anatomy & Physiology I Lab	1
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
MTR 100	Medical Terminology	1
PSY 101	General Psychology	3
SSS 101	Student Success Seminar	1
		15
Semester 2		
ART ###	Art Elective	3
BIO 109	Human Anatomy & Physiology II	3
BIO 110	Human Anatomy & Physiology II Lab	1
COM 212	Public Speaking	3
MAT 121	Introduction to Statistics	3
		13
Semester 3		
PTA 103	Intro to Physical Therapy for the Physical Therapist Assistant	2
PTA 151	Patient Care	2
PTA 152	Patient Care Lab	1
PTA 153	Physical Therapy Procedures	2
PTA 154	Physical Therapy Procedures Lab	1
PTA 155	Principles of Therapeutic Exercise	1
PTA 156	Principles of Therapeutic Exercise Lab	1
PTA 221	Pathophysiology	2
PTA 223	Applied Kinesiology	3
PTA 224	Applied Kinesiology Lab	1
		16
Semester 4		
PTA 255	Interventions in Musculoskeletal	3
PTA 256	Interventions in Musculoskeletal Lab	1
PTA 257	Interventions in Neurology	3
PTA 258	Interventions in Neurology Lab	1
PTA 259	Topics in Rehabilitation	3
PTA 260	Topics in Rehabilitation Lab	1
PTA 270	Clinical Experience I (1day/15wks)	2
		14
Semester 5		
PTA 280	Clinical Experience II (40hrs/6wks)	5
PTA 290	Clinical Experience III (40hrs/6wks)	5
PTA 295	Professional Seminar	1
		11
Minimum Credits to Graduate		**69**

Health Science Division -
Radiologic Technology

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 Goals

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

Student Learning Objectives - Students will:

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

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

Student Learning Objectives - Students 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 Objectives - Students 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 purposes

Goal 4: Graduates will meet the needs of the patient.

Student Learning Objectives - Students will:

- Demonstrate the necessary oral and written communication skills with patients and other medical professionals within the clinical setting.
- Be able to adjust standard procedures to meet the needs of the individual patient for non-routine exams.

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 writing component of the SAT will be reviewed by the Enrollment 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.

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, BIO 107, BIO 108, BIO 109 and BIO 110 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 (RAD 163, RAD 165, RAD 251, RAD 259).
- 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.

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 (40 credits)

RAD 151	Radiologic Positioning I	3
RAD 152	Radiologic Positioning I Lab	1
RAD 153	Radiologic Exposures & Principles I	3
RAD 154	Radiologic Exposures & Principles I Lab	1
RAD 155	Patient Care I	2
RAD 157	Radiologic Positioning II	2
RAD 158	Radiologic Positioning II Lab	1
RAD 159	Radiologic Exposures & Principles II	3
RAD 161	Patient Care II	2
RAD 163	Clinical Practicum I	2
RAD 165	Clinical Practicum II	4
RAD 251	Clinical Practicum III	2
RAD 253	Radiation Biology & Protection	3
RAD 255	Image Analysis	2
RAD 259	Clinical Practicum IV	3
RAD 261	Radiologic Pathology	2
RAD 263	Advanced Medical Imaging	2
RAD 295	Professional Seminar	2

Related Courses (9 credits)

BIO 107	Human Anatomy & Physiology I	3
BIO 108	Human Anatomy & Physiology I Lab	1
BIO 109	Human Anatomy & Physiology II	3
BIO 110	Human Anatomy & Physiology II Lab	1
MTR 100	Medical Terminology	1

General Education (22 credits)

COM ###	Communications Elective	3
ENG 101	English Composition I	3
HMN 101	Introduction to Humanities	3
MAT 101/201	*(Determine by Placement Test)*	3
MAT 121	Introduction to Statistics	3
PHY 101	Introductory Physics	3
PSY 101	General Psychology	3
or SOC 101	Introduction to Sociology	
SSS 101	Student Success Seminar	1

Minimum Credits to Graduate **71**

Radiologic Technology
Associate in Science (AS)
Semester Program Outline

Semester 1		**Credits**
RAD 151	Radiologic Positioning I	3
RAD 152	Radiologic Positioning I Lab	1
RAD 153	Radiologic Exposures & Principles I	3
RAD 154	Radiologic Exposures & Principles I Lab	1
RAD 155	Patient Care I	2
BIO 107	Human Anatomy & Physiology I	3
BIO 108	Human Anatomy & Physiology I Lab	1
MAT 101/201	(Determined by Placement Test)	3
MTR 100	Medical Terminology	1
SSS 101	Student Success Seminar	1
		19
Semester 2		
RAD 157	Radiologic Positioning II	2
RAD 158	Radiologic Positioning II Lab	1
RAD 159	Radiologic Exposures & Principles II	3
RAD 161	Patient Care II	2
RAD 163	Clinical Practicum I	2
BIO 109	Human Anatomy & Physiology II	3
BIO 110	Human Anatomy & Physiology II Lab	1
ENG 101	English Composition I	3
		17
Summer Session I		
RAD 165	Clinical Practicum II	**4**
Semester 3		
RAD 251	Clinical Practicum III	2
RAD 253	Radiation Biology & Protection	3
RAD 255	Image Analysis	2
COM ###	Communications Elective	3
PHY 101	Introductory Physics	3
PSY 101	General Psychology	3
or SOC 101	Introduction to Sociology	
		16
Semester 4		
RAD 259	Clinical Practicum IV	3
RAD 261	Radiologic Pathology	2
RAD 263	Advanced Medical Imaging	2
RAD 295	Professional Seminar	2
HMN 101	Introduction to Humanities	3
MAT 121	Introduction to Statistics	3
		15
Minimum Credits to Graduate		**71**

Animal Science Division -
Veterinary Technology

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 Learning Goals

Goal 1: Graduates will be able to function as an entry-level certified veterinary technician in a variety of clinical settings.

Student Learning Outcomes:

- 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.
- Demonstrate preparedness and knowledge of skills based on the 9 VTNE prep exam domain scores
- 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.

Goal 2: Graduates will develop analytical, critical thinking, decision-making and psychomotor skills necessary to perform in the animal health care industry.

Student Learning Outcomes:

- Demonstrate competency in medical nursing, surgical nursing & anesthetic nursing
- Competently perform laboratory procedures
- Demonstrate proficiency in a pharmacy setting and understand pharmacologic concepts
- Produce diagnostic images and understand radiologic concepts

Goal 3: Graduates will contribute as an integral member of a veterinary health care team while adhering to professional and ethical standards including compassion for clients and animals and personal responsibility.

Student Learning Outcomes:

- Demonstrate competence is performing hospital and office procedures, maintaining client relations and public communication.
- Effectively communicate with the veterinary health care team and maintain a safe work environment for clients, animals and staff.
- Demonstrate understanding of the laws, ethics and professional organizations that govern the veterinary profession

Goal 4: Graduates will obtain the required skills to practice health promotion and animal disease prevention.

Student Learning Outcomes:

- Recognize significant zoonotic and animal diseases and the appropriate diagnostics, treatments and prevention of those diseases.
- Contribute to improved public health by promoting biosecurity measures and disease prevention through communication with clients.

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).

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; Next Generation score of 260 or above (in each section) in lieu of SAT scores 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
Recommended: 1 year of Chemistry with a "C+" or higher

Applicants must take 2 years of Biology and/or Life Sciences, 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 Program Enrollment Requirements
Prior to the start of the first semester, students must provide proof of tetanus and rabies. 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. 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 & MAT 205 courses. Additionally, a student must receive an average grade of "C+" (76%) or higher in each VET & MAT 205 courses. If the student's programatic GPA falls below 2.33, the student will be placed on academic probation. The following semester, your GPA must be brought up to a cumulative 2.33 in all courses listed above or you will be dismissed from the program. If a student receives a grade below a "C+" (76%), the student must re-take the course at their own expense in order to successfully complete the program. Please refer to the Veterinary Technology Academic Progression Policy for details concerning academic progress details.

VET 275 and VET 277, Senior Clinical Rotations I and II are capstone courses. 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
A five-week internship 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.

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

Veterinary Technology
Major Courses (52 Credits)

MAT 205	Medicine & Mathematics	3
VET 151	Intro. to Veterinary Tech. / Clinical Management	1
VET 153	Clinical Applications for Large Animals	2
VET 154	Clinical Applications for Large Animals Lab	1
VET 155	Clinical Applications for Small Animals	2
VET 156	Clinical Applications for Small Animals Lab	1
VET 157	Animal Anatomy and Physiology I	3
VET 158	Animal Anatomy and Physiology Lab I	1
VET 159	Animal Anatomy and Physiology II	3
VET 160	Animal Anatomy and Physiology Lab II	1
VET 161	Parasitology & Immunology	2
VET 162	Parasitology & Immunology Lab	1
VET 251	Pharmacology & Anesthesia	3
VET 253	Clinical Pathology	2
VET 254	Clinical Pathology Lab	1
VET 259	Surgical Nursing I	2
VET 263	Surgical Nursing II	2
VET 267	Veterinary Radiology	1
VET 268	Veterinary Radiology Lab	1
VET 269	Intensive Care Applications	3
VET 271	Diseases & Zoonoses	3
VET 275	Clinical Rotation - Surgery	3
VET 277	Clinical Rotation - Medicine	3
VET 280	Kennel Rotation I	1
VET 282	Kennel Rotation II	1
VET 295	Veterinary Technology Professional Seminar	1
VET 299	Internship	4

General Education (23 Credits)

CHM 101	Chemistry I	3
CHM 102	Chemistry I Lab	1
COM 212	Public Speaking	3
CPT 101	Microcomputer I	3
CSM 105	Customer Service and Our World	3
ENG 101	English Composition I	3
MAT 101	College Algebra I and Trigonometry	3
ART ###	Art Elective	3
SSS 101	Student Success Seminar	1

Minimum Credits to Graduate **75**

Veterinary Technology
Associate in Science (AS)
Semester Program Outline

Semester 1		**Credits**
VET 151	Introduction to Veterinary Technology/Clinical Management	1
VET 153	Clinical Applications for Large Animals	2
VET 154	Clinical Applications for Large Animals Lab	1
or VET 155	Clinical Applications for Small Animals	2
VET 156	Clinical Applications for Small Animals Lab	1
VET 157	Animal Anatomy & Physiology I	3
VET 158	Animal Anatomy & Physiology Lab I	1
CHM 101	Chemistry I	3
CHM 102	Chemistry I Lab	1
MAT 101	College Algebra I and Trigonometry	3
SSS 101	Student Success Seminar	1
		16
Semester 2		
VET 153	Clinical Applications for Large Animals	2
VET 154	Clinical Applications for Large Animals Lab	1
or VET 155	Clinical Applications for Small Animals	2
VET 156	Clinical Applications for Small Animals Lab	1
VET 159	Animal Anatomy and Physiology II	3
VET 160	Animal Anatomy and Physiology Lab II	1
VET 161	Parasitology & Immunology	2
VET 162	Parasitology & Immunology Lab	1
ENG 101	English Composition I	3
CPT 101	Microcomputer I	3
MAT 205	Medicine & Mathematics	3
		19
Semester 3		
VET 251	Pharmacology & Anesthesia	3
VET 253	Clinical Pathology	2
VET 254	Clinical Pathology Lab	1
VET 259	Surgical Nursing I	2
VET 275	Clinical Rotation - Surgery	3
or VET 277	Clinical Rotation - Medicine	
VET 280	Kennel Rotation I	1
COM 212	Public Speaking	3
ART ###	Art Elective	3
		18

Semester 4		
VET 263	Surgical Nursing II	2
VET 267*	Veterinary Radiology	1
VET 268*	Veterinary Radiology Lab	1
VET 269	Intensive Care Applications	3
VET 271	Diseases & Zoonoses	3
VET 275	Clinical Rotation - Surgery	3
or VET 277	Clinical Rotation - Medicine	
VET 282	Kennel Rotation II	1
VET 295	Professional Seminar	1
CSM 105	Customer Service and Our World	3
		18
Summer Semester		
VET 299	Internship	4
Minimum Credits to Graduate		**75**

* Must be taken concurrently with VET 257 or VET 265 offered in Semester 3 & 4.

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.

Logistics & Supply Chain Management

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: Students will -

- Demonstrate the ability to manage the complete flow of material in a supply chain.
- Apply statistical analysis to answer questions important to making sound business decisions.
- Demonstrate PC literacy, specifically with the Microsoft Office Suite.
- Forecast inventory requirements.
- Develop delivery schedules in accordance to customer needs.
- 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: Students will -

- Demonstrate effective writing skills.
- Demonstrate effective verbal communication skills.
- Evaluate business situations to determine customer and employee needs.
- 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: Students will -

- Identify and mitigate project costs.
- Identify and mitigate project risks.
- Interpret financial statements
- Turn source documents into trackable transactions to be used in decision-making for business.

Logistics & Supply Chain Management
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 298	Capstone	4
or INT 299	Internship	
ACC 101	Accounting I	3
BSL 201	Business Law	3
BUS 101	Introduction to Business	3
BUS 201	Project Management	3
ECO 101	Introduction to Economics	3
MNG 185	Principles of Management	3
MNG 284	Management and Supervision	3

General Education Courses (22 Credits)

COM 212	Public Speaking	3
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
MAT 121	Introduction to Statistics	3
PSY 105	Industrial and Organizational Psychology	3
ART ###	Art Elective	3
SCI ###	Science Elective	3
SSS 101	Student Success Seminar	1

Minimum Credits to Graduate **65**

Logistics & Supply Chain Management

Associate in Applied Science (AAS)

Semester Program Outline

Semester 1		**Credits**
BUS 101	Introduction to Business	3
CPT 101	Microcomputer I	3
ECO 101	Principles of Economics	3
ENG 101	English Composition I	3
MAT 121	Introduction to Statistics	3
SSS 101	Student Success Seminar	1
		16
Semester 2		
LOG 191	Basics of Supply Chain Management	3
LOG 192	Transportation Management	3
COM 212	Public Speaking	3
PSY 105	Industrial and Organizational Psychology	3
ART ###	Art Elective	3
		15
Semester 3		
ACC 101	Accounting I	3
BUS 201	Project Management	3
LOG 194	Warehousing and Distribution	3
LOG 195	Production and Inventory Control	3
MNG 185	Principles of Management	3
SCI ###	Science Elective	3
		18
Semester 4		
BSL 201	Business Law	3
LOG 291	Total Quality Management	3
LOG 294	International Logistics	3
LOG 298	Capstone	4
or INT 299	Internship	4
MNG 284	Management and Supervision	3
		16
Minimum Credits to Graduate		**65**

Transportation Division -
Automotive Technology

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

Automotive Technology
Major Courses (41 Credits)

VMR 151	Introduction to Vehicle Maintenance & Repair Technology	1
VMR 153	Brake Systems	2
VMR 154	Brake Systems Lab	1
VMR 155	Steering and Suspension Systems	2
VMR 156	Steering and Suspension Systems Lab	1
VMR 157	Introduction to Welding for Auto and Diesel	2
VMR 159	Electrical & Electronic Systems	2
VMR 160	Electrical & Electronic Systems Lab	1
VMR 251	HVAC Vehicle Systems	2
VMR 252	HVAC Vehicle Systems Lab	1
VMR 253	Certifications for Automotive and Diesel Technicians	1
AUT 161	Engine Performance & Emissions	2
AUT 162	Engine Performance & Emissions Lab	1
AUT 163	Internal Combustion Engine Fundamentals	2
AUT 164	Internal Combustion Engine Fundamentals Lab	1
AUT 261	Gasoline Engine Overhaul Procedures	2
AUT 262	Gasoline Engine Overhaul Procedures Lab	2
AUT 263	Advanced Automotive Electrical Technology	2
AUT 264	Advanced Automotive Electrical Technology Lab	1
AUT 265	Automatic Transmissions & Transaxles	2
AUT 266	Automatic Transmissions & Transaxles Lab	1
AUT 267	Manual Transmissions & Differentials	2
AUT 268	Manual Transmissions & Differentials Lab	1
INT 299	Internship	4
IET 101	Introduction to Automotive and Diesel Electronics	2

General Education (22 Credits)

BUS 101	Introduction to Business	3
COM 212	Public Speaking	3
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
MAT 101	College Algebra I and Trigonometry	3
OR MAT105	Math for the Transportation Division	
ART ###	Art Elective	3
SCI ###	Science Elective	3
SSS 101	Student Success Seminar	1

Minimum Credits to Graduate **63**

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

Semester 1		**Credits**
VMR 151	Introduction to Vehicle Maintenance & Repair Technology	1
VMR 153	Brake Systems	2
VMR 154	Brake Systems Lab	1
VMR 155	Steering and Suspension Systems	2
VMR 156	Steering and Suspension Systems Lab	1
VMR 157	Introduction to Welding for Auto and Diesel	2
IET 101	Introduction to Automotive & Diesel Electronics	2
CPT 101	Microcomputer I	3
SSS 101	Student Success Seminar	1
		15
Semester 2		
VMR 159	Electrical & Electronic Systems	2
VMR 160	Electrical & Electronic Systems Lab	1
AUT 161	Engine Performance & Emissions	2
AUT 162	Engine Performance & Emissions Lab	1
AUT 163	Internal Combustion Engine Fundamentals	2
AUT 164	Internal Combustion Engine Fundamentals/Lab	1
BUS 101	Introduction to Business	3
ENG 101	English Composition I	3
MAT 101	College Algebra I and Trigonometry	3
OR MAT105	Math for the Transportation Division	3
		18
Semester 3		
AUT 261	Gasoline Engine Overhaul Procedures	2
AUT 262	Gasoline Engine Overhaul Procedures Lab	2
AUT 263	Advanced Automotive Electrical Technology	2
AUT 264	Advanced Automotive Electrical Technology Lab	1
AUT 265	Automatic Transmissions & Transaxles	2
AUT 266	Automatic Transmissions & Transaxles Lab	1
COM 212	Public Speaking	3
ART ###	Art Elective	3
		16
Semester 4		
VMR 251	HVAC Vehicle Systems	2
VMR 252	HVAC Vehicle Systems Lab	1
VMR 253	Certifications for Auto and Diesel Technicians	1
AUT 267	Manual Transmissions & Differentials	2
AUT 268	Manual Transmissions & Differentials Lab	1
INT 299	Internship	4
SCI ###	Science Elective	3
		14
Minimum Credits to Graduate		**63**

Transportation Division -
Diesel Truck Technology

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.
- Diagnose and repair steering and suspension components
- Diagnose and repair drive line component issues
- Diagnose and repair HVAC components issues

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.

Diesel Truck Technology
Major Courses (42 Credits)

VMR 151	Intro. to Vehicle Maintenance & Repair Technology	1
VMR 153	Brake Systems	2
VMR 154	Brake Systems Lab	1
VMR 155	Steering and Suspension Systems	2
VMR 156	Steering and Suspension Systems Lab	1
VMR 157	Introduction to Welding for Auto and Diesel	2
VMR 159	Electrical & Electronic Systems	2
VMR 160	Electrical & Electronic Systems Lab	1
VMR 251	HVAC Vehicle Systems	2
VMR 252	HVAC Vehicle Systems Lab	1
VMR 253	Certifications for Automotive and Diesel Students	1
DTT 175	Diesel Engine Overhaul	2
DTT 176	Diesel Engine Overhaul Lab	2
DTT 177	Diesel Fuel Injection and Emissions	2
DTT 178	Diesel Fuel Injection and Emissions Lab	1
DTT 179	Diesel Engine Performance and Tune-up Procedures	2
DTT 180	Diesel Engine Performance and Tune-up Procedures Lab	2
DTT 277	Manual Transmission Overhaul	2
DTT 278	Manual Transmission Overhaul Lab	1
DTT 279	Differentials and Drive Line	2
DTT 280	Differentials and Drive Line Lab	1
DTT 281	Auto. Transmission Diagnostics, Basic Hydraulics	2
DTT 282	Auto. Transmission Diagnostics, Basic Hydraulics Lab	1
DTT 283	Applied Diesel Truck Principles and Applications	2
DTT 284	Applied Diesel Truck Principles and Applications Lab	2
or INT 299	Internship	4
IET 101	Introduction to Automotive and Diesel Electronics	2

General Education (22 Credits)

BUS 101	Introduction to Business	3
COM 212	Public Speaking	3
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
MAT 101	College Algebra I and Trigonometry	3
OR MAT 105	Math for the Transportation Division	
ART ###	Art Elective	3
SCI ###	Science Elective	3
SSS 101	Student Success Seminar	1

Minimum Credits to Graduate **64**

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

Semester 1		**Credits**
VMR 151	Introduction to Vehicle Maintenance & Repair Technology	1
VMR 153	Brake Systems	2
VMR 154	Brake Systems Lab	1
VMR 155	Steering and Suspension Systems	2
VMR 156	Steering and Suspension Systems Lab	1
VMR 157	Introduction to Welding for Auto and Diesel	2
IET 101	Introduction to Automotive & Diesel Electronics	2
CPT 101	Microcomputer I	3
SSS 101	Student Success Seminar	1
		15
Semester 2		
VMR 159	Electrical & Electronic Systems	2
VMR 160	Electrical & Electronic Systems Lab	1
DTT 175	Diesel Engine Overhaul	2
DTT 176	Diesel Engine Overhaul Lab	2
DTT 177	Diesel Fuel Injection and Emissions	2
DTT 178	Diesel Fuel Injection and Emissions Lab	1
ENG 101	English Composition I	3
MAT 101	College Algebra I and Trigonometry	3
OR MAT105	Math for the Transportation Division	3
		16
Semester 3		
DTT 179	Diesel Engine Performance and Tune-up Procedures	2
DTT 180	Diesel Engine Performance and Tune-up Procedures Lab	2
DTT 277	Manual Transmission Overhaul	2
DTT 278	Manual Transmission Overhaul Lab	1
DTT 279	Differentials and Drive Line	2
DTT 280	Differentials and Drive Line Lab	1
BUS 101	Introduction to Business	3
COM 212	Public Speaking	3
SCI ###	Science Elective	3
		19
Semester 4		
DTT 281	Automatic Transmission Diagnostics, Basic Hydraulics	2
DTT 282	Automatic Transmission Diagnostics, Basic Hydraulics/Lab	1
DTT 283	Applied Diesel Truck Principles and Applications	2
DTT 284	Applied Diesel Truck Principles and Applications Lab	2
or INT 299	Internship	4
VMR 251	HVAC Vehicle Systems	2
VMR 252	HVAC Vehicle Systems Lab	1
VMR 253	Certifications for Automotive and Diesel Students	1
ART ###	Art Education Elective	3
		14
Minimum Credits to Graduate		**64**

Heavy Equipment Technology (AAS)

Program Objective
Coursework prepares students to succeed as well-trained, mechanically minded, hard-working technicians with heavy equipment dealers and contractors. Instruction involves classroom theory, live shop demonstrations, and repair of heavy equipment currently used in industry. Making repairs on actual equipment is vital to skill development.

Work Environment
Heavy equipment dealers and earth-moving contractors are top employers. Jobs are also available with mining and logging companies. Most technicians work in indoor shops, but experienced field service technicians travel to job sites to perform repairs.

Career Opportunities
- Mobile Heavy Equipment Technician
- Construction Equipment Technician
- Field Service Technician
- Dealer Service Technician

Program Learning Goals

Goal 1: Graduates will possess the skills necessary to correctly and safely operate equipment used in the heavy equipment industry.

Student Learning Outcomes - Students will:
- Practice the use of proper safety equipment.
- Visualize situations to predict any concerns before attempting them.
- Perform tasks following OSHA safety guidelines

Goal 2: Graduates will understand the importance of professional behavior within the Heavy Equipment Industry.

Student Learning Outcomes - Graduates will:
- Communicate with internal and external stakeholder in a professional and appropriate manner.
- Demonstrate professional skills as they relate to timeliness, accountability, and reliability.

Goal 3: Graduates will possess the skills necessary to obtain an entry-level heavy equipment technician position.

Student Learning Outcomes - Students will:
- Diagnose a diesel engine and repair a variety of different types of engines.
- Perform visual emissions inspections
- Troubleshoot hydraulic systems, mechanical systems, and electronics
- Maintain and repair drive train, steering, and suspension systems

Heavy Equipment Technology
Major Courses (48 Credits)

VMR 151	Intro. to Vehicle Maintenance & Repair Technology	1
VMR 153	Brake Systems	2
VMR 154	Brake Systems Lab	1
VMR 155	Steering and Suspension Systems	2
VMR 156	Steering and Suspension Systems Lab	1
VMR 157	Introduction to Welding for Auto and Diesel	2
VMR 159	Electrical & Electronic Systems	2
VMR 160	Electrical & Electronic Systems Lab	1
VMR 251	HVAC Vehicle Systems	2
VMR 252	HVAC Vehicle Systems Lab	1
VMR 253	Certifications for Automotive and Diesel Students	1
DTT 175	Diesel Engine Overhaul	2
DTT 176	Diesel Engine Overhaul Lab	2
DTT 177	Diesel Fuel Injection and Emissions	2
DTT 178	Diesel Fuel Injection and Emissions Lab	1
DTT 179	Diesel Engine Performance and Tune-up Procedures	2
DTT 180	Diesel Engine Performance and Tune-up Procedures Lab	2
DTT 285	Diesel Engine Overhaul	2
DTT 286	Diesel Engine Overhaul Lab	2
IET 101	Introduction to Vehicle Circuits and Electronics	2
HET 253	Drive Components & Systems	1
HET 254	Drive Components & Systems Lab	2
HET 255	Hydraulic Systems	2
HET 256	Hydraulic Systems Lab	3
HET 257	Heavy Equipment Maintenance and Repair	1
HET 258	Heavy Equipment Maintenance and Repair Lab	2
INT 299	Internship	4
OR		
HET 283	Applied Heavy Equipment Principles and Applications	1
HET 284	Applied Heavy Equipment Principles and Applications Lab	3
OR		
HET 259	John Deere Internship	4

General Education (20 Credits)

BTT 129	Construction Safety & Forklift	1
BUS 101	Introduction to Business	3
CPT 101	Microcomputer I	3
ENG 105	Industry Communication	3
MAT 105	Math for the Transportation Division	3
ART ###	Art Elective	3
SCI ###	Science Elective	3
SSS 101	Student Success Seminar	1

Heavy Equipment Technology (AAS)
Semester Program Outline

Semester 1		
IET 101	Introduction to Automotive & Diesel Electronics	2
BTT 129	Construction Safety & Forklift	1
ENG 105	Industry Communication	3
SSS 101	Student Success Seminar	1
MAT 105	Math for the Transportation Division	3
VMR 151	Introduction to Vehicle Maintenance & Repair Technology	1
VMR 153	Brake Systems	2
VMR 154	Brake Systems Lab	1
VMR 155	Steering and Suspension Systems	2
VMR 156	Steering and Suspension Systems Lab	1
		17
Semester 2		
ART ###	Art Education Elective	3
BUS 101	Introduction to Business	3
or CSM 105	Customer Service & Our World	
CPT 101	Microcomputer I	3
DTT 177	Diesel Fuel Injection Systems	2
DTT 178	Diesel Fuel Injection Systems Lab	1
DTT 179	Diesel Engine Performance and Tune-up Procedures	2
DTT 180	Diesel Engine Performance and Tune-up Procedures Lab	2
VMR 159	Electrical & Electronic Systems	2
VMR 160	Electrical & Electronic Systems Lab	1
		19
Semester 3		
DTT 285	Diesel Engine Overhaul	2
DTT 286	Diesel Engine Overhaul Lab	2
HET 253	Drive Components & Systems	1
HET 254	Drive Components & Systems Lab	2
HET 255	Hydraulic Systems	2
HET 256	Hydraulic Systems Lab	3
SCI ###	Science Elective	3
VMR 161	Welding and Flame Cutting for Vehicles	1
VMR 162	Welding and Flame Cutting for Vehicles	2
		18
Semester 4		
HET 257	Heavy Equipment Maintenance and Repair	1
HET 258	Heavy Equipment Maintenance and Repair Lab	2
VMR 251	HVAC Vehicle Systems	2
VMR 252	HVAC Vehicle Systems Lab	2
VMR 253	Certifications for the Transportation Division	2
INT 299	Internship OR	4
HET 297	Heavy Equipment Principles and Applications	
HET 298	Heavy Equipment Principles and Applications Lab OR	
HET 259	John Deere Specialization	
		13
Minimum Credits to Graduate		**68**

CERTIFICATE PROGRAMS
Building and Property Maintenance (Certificate)

The Building and Property Maintenance certificate program will prepare students to enter the workforce ready to perform general maintenance and upkeep on buildings and properties. Students will learn basic maintenance and repair skills required in the upkeep of building and property systems. Instruction inclues areas such as air conditioning, heating, plumbing, electrical, major appliances, grounds keeping, computer skills and customer service

Graduates work as maintenance mechanics, general maintenance workers, grounds keepers and maintenance technicians.

Typical employers are hotels, government entities, educational institutions, retirement communities, resorts, healthcare facilities and apartment complexes.

Program Goals

Goal 1: Graduates will possess the skills necessary to obtain entry-level maintenance positions.

Student Learning Outcomes - Students will:

- Demonstrate competency in basic electrical skills.
- Demonstrate competency in basic carpentry skills.
- Demonstrate competency in basic heating and air conditioning repair.
- Practice safe working conditions according to OSHA standards.

Goal 2: Graduates will develop critical thinking skills for troubleshooting and prioritizing tasks.

Student Learning Outcomes - Students will:

- Demonstrate the ability to identify maintenance requirements, including preventative maintenance and repair needs.
- Prioritize tasks for efficient repair and maintenance of property and buildings.

Goal 3: Graduates will develop customer service and communication skills.

Student Learning Outcomes - Students will:

- Develop clear and effective written and oral communication skills.
- Develop skills necessary to serve internal and external customers with respect and exceptional service.
- Develop the employability skills necessary to become a productive member of the workforce.
- Enhance computer skills to facilitate effective communication requirements.

Building and Property Maintenance (Certificate)
Major Courses (22 Credits)

ART 110	Contract Drawings	3
BPM 101	Basics of Property Maintenance	2
BPM 102	Basics of Property Maintenance Lab	1
BPM 105	Introduction to Plumbing	2
BPM 106	Introduction to Plumbing Lab	1
BTT 149	Construction Safety	1
ECM 161	Residential Wiring	2
ECM 162	Residential Wiring Lab	4
BPM 151	Interior/Exterior Finishes	2
BPM 152	Interior/Exterior Finishes Lab	4

General Education (11 credits)

CPT 101	Microcomputer I	3
CSM 105	Customer Service and Our World	3
ENG 101	English Composition I	3
MAT 123	Math for Carpenters	1
SSS 101	Student Success Seminar	1

Minimum Credits to Graduate **33**

Building and Property Maintenance (Certificate)

Semester Program Outline

Semester 1		**Credits**
ART 110	Contract Drawings	3
BPM 101	Basics of Property Maintenance	2
BPM 102	Basics of Property Maintenance Lab	1
BTT 149	Construction Safety	1
BPM 151	Interior/Exterior Finishes	2
BPM 152	Interior/Exterior Finishes Lab	4
CPT 101	Microcomputer I	3
SSS 101	Student Success Seminar	1
Total Semester 1		**17**
Semester 2		
BPM 105	Introduction to Plumbing	2
BPM 106	Introduction to Plumbing Lab	1
ECM 161	Residential Wiring	2
ECM 162	Residential Wiring Lab	4
CSM 105	Customer Service	3
ENG 101	English Composition I	3
MAT 123	Math for Carpenters	1
Total Semester 2		**16**
TOTAL CREDITS CERTIFICATE		**33**

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.

Program Learning Goals

Goal 1: Graduates will possess the appropriate skills and safety awareness that are needed for entry into the diesel preventative maintenance 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.
- Identify and select the appropriate tools for the job at hand.
- Perform preventative maintenance on light and heavy trucks.

Diesel Preventative Maintenance Technology Major Courses (21 Credits)

VMR 151	Introduction to Vehicle Maintenance & Repair Technology	1
VMR 153	Brake Systems	2
VMR 154	Brake Systems Lab	1
VMR 155	Steering and Suspension Systems	2
VMR 156	Steering and Suspension Systems Lab	1
VMR 157	Introduction to Welding for Auto and Diesel	2
VMR 159	Electrical & Electronic Systems	2
VMR 160	Electrical & Electronic Systems Lab	1
DTT 177	Diesel Fuel Injection and Emissions	2
DTT 178	Diesel Fuel Injection and Emissions Lab	1
DTT 179	Diesel Engine Performance and Tune-Up Procedures	2
DTT 180	Diesel Engine Performance and Tune-Up Procedures Lab	2
IET 101	Introduction to Automotive and Diesel Electronics	2

General Education (10 Credits)

MAT 105	Math for the Transportation Division	3
OR MAT 101	College Algebra and Trignomotry I	
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
SSS 101	Student Success Seminar	1

Minimum Credits to Graduate **31**

Diesel Preventative Maintenance Technology (Certificate)

Semester Program Outline

Semester 1		**Credits**
VMR 151	Introduction to Vehicle Maintenance & Repair Technology	1
VMR 153	Brake Systems	2
VMR 154	Brake Systems Lab	1
VMR 155	Steering and Suspension Systems	2
VMR 156	Steering and Suspension Systems Lab	1
VMR 157	Introduction to Welding for Auto and Diesel	2
IET 101	Introduction to Automotive & Diesel Electronics	2
CPT 101	Microcomputer I	3
SSS 101	Student Success Seminar	1
Total Semester 1		**15**
Semester 2		
VMR 159	Electrical & Electronic Systems	2
VMR 160	Electrical & Electronic Systems Lab	1
DTT 177	Diesel Fuel Injection and Emissions	2
DTT 178	Diesel Fuel Injection and Emissions Lab	1
DTT 179	Diesel Engine Performance and Tune-Up Procedures	2
DTT 180	Diesel Engine Performance and Tune-Up Procedures Lab	2
MAT 105	Math for the Transportation Division	3
ENG 101	English Composition I	3
Total Semester 2		**16**
TOTAL CREDITS CERTIFICATE		**31**

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/

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 graduates for entry level employment in welding.

Student Learning Outcomes - Students will:

- Demonstrate safe welding practices
- Perform basic welding skills in SMAW (stick), GMAW (mig), GTAW (tig) and oxyfuel cutting procedures
- Perform basic maintenance on welding machines
- Interpret basic welding symbols

Welding Technology Major Courses (18 Credits) *

WTC 151	Shielded Metal Arc Welding	2
WTC 152	Shielded Metal Arc Welding Lab	4
WTC 153	Gas Metal and Flux Cored Arc Welding I	1
WTC 154	Gas Metal and Flux Cored Arc Welding I Lab	2
WTC 155	Gas Metal and Flux Cored Arc Welding II	1
WTC 156	Gas Metal and Flux Cored Arc Welding II Lab	2
WTC 157	Gas Tungsten Arc Welding	2
WTC 158	Gas Tungsten Arc Welding Lab	4

Related Courses (5 Credits)

ART 101	Blueprint Reading	1
BTT 149	Construction Safety	1
MAT 100	Applied Mathematics for Welders	3

General Education Courses (7 Credits)

CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
SSS 101	Student Success Seminar	1

Minimum Credits to Graduate **30**

Welding Technology (Certificate)

Semester Program Outline

Semester 1		**Credits**
WTC 151	Shielded Metal Arc Welding I	2
WTC 152	Shielded Metal Arc Welding I Lab	4
WTC 153	Gas Metal and Flux Cored Arc Welding I	1
WTC 154	Gas Metal and Flux Cored Arc Welding I Lab	2
ART 101	Blueprint Reading	1
BTT 149	Construction Safety	1
MAT 100	Applied Mathematics for Welders	3
SSS 101	Student Success Seminar	1
Total Semester 1		**15**
Semester 2		
WTC 155	Gas Metal and Flux Cored Arc Welding II	1
WTC 156	Gas Metal and Flux Cored Arc Welding II Lab	2
WTC 157	Gas Tungsten Arc Welding	2
WTC 158	Gas Tungsten Arc Welding Lab	4
CPT 101	Microcomputer I	3
ENG 101	English Composition I	3
Total Semester 2		**15**
TOTAL CREDITS CERTIFICATE		**30**

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/

COURSE DESCRIPTIONS - PROGRAMS OF STUDY

Advanced Manufacturing Technology

Course No.	Course Title	Credits

AMT 101 **Principles for Advanced Manufacturing** **3**

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.

AMT 151 **Fundamentals of Metal Cutting** **2**

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. Measuring instruments are also stressed throughout this course.

AMT 152 **Fundamentals of Metal Cutting Lab** **1**

This course introduces students to a safe and productive shop environment. It also provides practical applications including jobs and projects involving hand tools, cutting, deburring, sharpening, and grinding various cutting tools. Students are taught have to accurately read and use multiple measuring instruments.

AMT 153 **Subtractive Manufacturing** **1**

Safety, cutting speeds, types of lathes, lathe accessories, lathe operation, and measuring instruments are covered in this course. Information about safety, types of milling machines, milling machine attachments, milling operations are covered in this course. Technical competence in the use of measuring instruments is also stressed. (*Prerequisite:* AMT 151)

AMT 154 **Subtractive Manufacturing Lab** **2**

This covers the practical portion of the subtractive manufacturing course. Lathe operations covered include facing, turning, center drilling, reaming, boring, tapering, knurling, and thread chasing. Milling operations include squaring a piece, locating holes, drilling operations, and milling slots.

AMT 155 **Introduction to Electricity** **2**

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 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.

AMT 156 Introduction to Electricity Lab 1

In this course students will build and test circuits that demonstrate electrical theory. Students will use digital meters to test series, parallel, and series parallel circuit they have built. The student will also work with electrical components commonly found in industry. This work will center on setting these components up, testing and troubleshooting them. Safe work practices will be emphasized throughout this course.

AMT 157 Sensors and Systems in Automation 2

This course will introduce the students to common types of detection devices and relays used in industrial automation. The theory of operation, setup, and troubleshooting techniques for those detection devices will be discussed. The course continues with an introduction to hydraulic and pneumatic systems used in the industrial setting for the control of actuators and grippers in an automated system. Safety when working with automated and fluid power systems is emphasized throughout the course.
(*Prerequisites*: EET 161 or AMT 155)

AMT 158 Sensors and Systems in Automation Lab 1

This course will allow the student to set-up, operate and troubleshoot the different types of sensing devices commonly found in the industrial automation environment. The student will work industrial control relays and the various sensors covered in AMT 157 to control a conveyor. As the student progresses they will also work with hydraulic and pneumatic trainers develop practical skills for setup, troubleshooting, and integration of these systems into the larger control scheme of an automated system.
(*Prerequisites*: EET 161 or AMT 155 or instructor's approval

AMT 251 Computer Numerical Control Machining 1

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 theory are covered in the course. Tool offsets are also covered in this course. (*Prerequisites:* AMT 151, AMT 153)

AMT 252 Computer Numerical Control Machining Lab 2

This course instructs students on the writing of G and M code CNC language. Student learn to write code by hand and insert it into machine. Students then create work offsets in order to set up the machine and parts. They then makes the parts with an emphasis on precision and repeatability. (*Prerequisites:* AMT 151, AMT 153)

AMT 253 Programmable Logic Controllers 2

This course is designed to introduce the student to modern programmable logic controllers base on Control Logix and Compact Logix Programmable Automation Controllers (PAC's). The student will investigate the specification, setup, configuration, programming, and implementation of the controller. 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 254 Programmable Logic Controllers Lab 2

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. As the student progresses through this course the experiments will progressively build toward real world applications.

AMT 255 Additive Manufacturing 2

This course introduces the students in the design of 3D watertight meshes to create physical parts utilizing a 3D printer. Topics covered include the history of additive manufacturing, types of printing technologies, design for additive manufacturing, materials used, and corporate application of this process.

AMT 256 Additive Manufacturing Lab 1

This course instructs the students in the use of various software packages to design and create the code required use a 3D printer. Software packages taught include; Catalyst, Cura, TinkerCAD, Solidworks, Fusion360, and Meshmixer. After creation of parts using the CAD software students then setup the part to be printed. When finished printing, students are then instructed in cleaning the part of support material and checking for accuracy and functionality.

AMT 257 Computer Aided Design/Computer Aided Manufacturing 1

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.
(*Prerequisite:* AMT 251)

AMT 258 Computer Aided Design / Manufacturing Lab 2

This course instructs the student in the application of CAD/CAM with CNC equipment. Students learn to create part models using Solidworks and then write machining code using Mastercam. CNC machines are setup by the students to create the parts. Once parts are completed, students are instructed on inspection and quality control of the parts.
(*Prerequisite:* AMT 251)

AMT 259 **Automation and Robotics** **2**

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.
(*Prerequisite:* AMT 253)

AMT 260 **Automation and Robotics Lab** **2**

This course is designed to work in parallel with AMT 269. The student will work with a FANUC industrial robot and design programs to guide the robot through movement paths. An emphasis is placed on safety at all time. Projects will range from linear and circular motion to palletizing applications. (*Prerequisite:* AMT 253)

AMT 261 **Systems Integration (Capstone Project)** **1**

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 262 **Systems Integration (Capstone Project) Lab** **3**

This lab consists of the physical development, prototyping, and building of the capstone project. During the lab time the students will work on; manufacturing of parts using the labs machinery, assembly of any electronics needed, programming, testing, a live demonstration and presentation.

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 151 **Introduction to Computer-Assisted Drafting (CAD)** **2**
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.

ADT152 **Introduction to Computer-Assisted Drafting Lab** **2**
This lab session aligns with ADT151 and enhances the lecture session with practical Computer-Assisted drafting experiences. Students will practice their skills and techniques with the AutoCad Program creating contract drawings to industry standards.

ADT 153 **Residential Planning** **2**
This course will provide hands on Computer-Assisted Drafting (CAD) to create Residential Floor Plans, Residential Elevations, Site Layouts, Structural Framing Plans, Plumbing 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. (*Prerequisite:* ADT 151)

ADT 154 **Residential Planning Lab** **2**
This lab session aligns with ADT153 and enhances the lecture session with practical Computer-Assisted drafting experiences. Students will practice their skills and techniques with the AutoCad Program creating contract drawings to industry standards. (*Prerequisite:* ADT 151)

ADT 155 **Residential Cost Estimating** **3**
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.

ADT 251 **Building Information Modeling, Residential** **2**
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 252 **Building Information Modeling, Residential Lab** **2**
This lab session aligns with ADT251 and enhances the lecture session with practical Building Information Modeling (BIM) drafting experiences. Students will practice their skills and techniques with the AutoDesk Revit Program creating contract drawings to industry standards.

ADT 253 **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 255 **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 and sketching necessary to define the scope of work, construction materials, methods and quality control.

ADT 257 **Building Information Modeling, Commercial** **2**
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 258 **Building Information Modeling, Commercial Lab** **2**
This lab session aligns with ADT 257 and enhances the lecture session with practical Building Information Modeling (BIM) drafting experiences. Students will practice their skills and techniques with the AutoDesk Revit Program creating contract drawings to industry standards.

ADT 259 **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.

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 151 **Introduction to Vehicle Maintenance & Repair Technology** **1**

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. This course is designed to prepare students to work properly with all of the for mentioned topics along with building safe and thorough work habits.

VMR 153 **Brake Systems** **2**

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. (*Prerequisite:* VMR 151; *Corequisite:* VMR 154)

VMR 154 **Brake Systems Lab** **1**

This lab covers service practice procedures on hydraulic and air brake systems. Competency tasks will be performed on mechanical foundation, air supply, service system principles, major component diagnosis and repair, 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 practiced and performed to industry standards. This lab will prepare students to take the ASE technician certification test in brake systems.
(*Prerequisite:* VMR 151; *Corequisite:* VMR 153)

VMR 155 **Steering and Suspension Systems** **2**

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. This lecture on theory will prepare students to take the ASE technician certification test for steering and suspension systems.
(*Prerequisite:* VMR 151; *Corequisite:* VMR 156)

VMR 156 **Steering and Suspension Systems Lab** **1**

This lab covers service practice procedures on steering and suspension systems. Students will utilize the theory learned in VMR 155 to diagnose steering and suspension issues and the effect on wheel alignment. Students will perform competency tasks with the tools and equipment used for steering and suspension adjustment and repair, troubleshooting of suspension and steering, wheel bearings service, manual steering and power steering systems. High priority tasks recommended by ASE (Automotive Service Excellence) are covered. This will prepare students to take the ASE technician certification test for steering & suspension systems. (*Prerequisite:* VMR 151; *Corequisite:* VMR 155)

VMR 157 **Introduction to Welding for Auto and Diesel** **2**

This course is designed to introduce students to the basic principles and practices of several different types of welding. Students will learn the principles and safety issues related to Gas welding and cutting, MIG welding, Stick welding, Flux Core welding and TIG welding. Students will have the opportunity to practice the techniques used with all types of welding. This course will prepare students to perform welding tasks and minor fabrication tasks when they are in the industry setting.

VMR 159 **Electrical & Electronic Systems** **2**

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. This will prepare students to take the ASE technician certification test for electrical systems.
(*Prerequisite:* IET 101; *Corequisite:* VMR 160)

VMR 160 **Electrical & Electronic Systems Lab** **1**

This lab covers competency tasks on basic electrical circuits, practical use of tools and equipment used to diagnose 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 for electrical systems. (*Prerequisite:* IET 101; *Corequisite:* VMR 159)

VMR 251 **HVAC Vehicle Systems** **2**

This course covers information on the operation of heating and air conditioning as applied to today's cars and trucks. Students will learn the theory of air conditioning systems in passenger vehicles and light trucks, heavy-duty trucks and trailer refrigeration systems. New learning experiences in the troubleshooting and servicing of these systems are

taught. This will prepare students to take the ASE technician certification test for HVAC systems. (*Corequisite:* VMR 252)

VMR 252 **HVAC Vehicle Systems Lab** **1**
This lab covers competency tasks on the operation of heating and air conditioning systems. Students will utilize modern service equipment to perform competencies for recovering, recycling and recharging refrigerant in HVAC systems. High priority tasks recommended by ASE (Automotive Service Excellence) are covered. This will prepare students to take the ASE technician certification test for HVAC systems.
(*Corequisite:* VMR 251)

VMR 253 **Certifications for Automotive and Diesel Technicians** **1**
This course is designed to provide necessary training and practical testing to assist students in obtaining certifications for PA Safety Inspector, PA Emissions Inspector, and Mobile Air Conditioning refrigerant recovery and handling certification. These certifications will provide students with credentials that employers in the transportation industry are seeking.

AUT 161 **Engine Performance & Emissions** **2**
This course covers information theory on the operation and approved servicing of emission systems, fuel injection systems, computerized emission control systems, computerized engine procedures. 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. This will prepare students to take the ASE technician certification test for engine performance. (*Corequisite:* AUT 162)

AUT 162 **Engine Performance & Emissions Lab** **1**
This lab provides practical experience on the operation and approved servicing of emission systems, fuel injection systems, computerized emission control systems, computerized engine procedures and utilizes live vehicles to reinforce the information presented. Students will perform competency tasks utilizing diagnostic equipment and proper safety procedures related to fuel and emission systems diagnostics and repair. High priority tasks recommended by ASE (Automotive Service Excellence) are covered. This will prepare students to take the ASE technician certification test for engine performance.
(*Corequisite:* AUT 161)

AUT 163 **Internal Combustion Engine Fundamentals** **2**
This course covers the theory 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. This will prepare students to take the ASE technician certification test for engine diagnostics and overhaul. (*Corequisite:* AUT 164)

AUT 164 **Internal Combustion Engine Fundamentals Lab** **1**
This lab consists of practical experience on the operation and approved servicing of engine cooling systems and lubrication systems. Proper safety procedures related to the diagnosis and repair of the internal combustion engine are covered. High priority tasks recommended by ASE (Automotive Service Excellence) are covered. This will prepare students to take the ASE technician certification test engine diagnostics and overhaul. (*Corequisite:* AUT 163)

AUT 261 **Gasoline Engine Overhaul Procedures** **2**
Information and theory 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 are covered. Proper diagnostics will be stressed as well as component inspection, measuring and testing. This will prepare students to take the ASE technician certification test engine diagnostics and overhaul.
(*Prerequisite:* AUT 163, AUT 164; *Corequisite:* AUT 262)

AUT 262 **Gasoline Engine Overhaul Procedures Lab** **2**
This lab contains competency tasks for engine overhaul procedures. Emphasis is placed on properly diagnosing, inspecting and measuring component of cylinder heads, valve trains, and engine blocks. Proper safety procedures related to engine overhaul will also be practiced while performing live work. High priority tasks recommended by ASE (Automotive Service Excellence) are covered. This will prepare students to take the ASE technician certification test engine diagnostics and overhaul. (*Prerequisite:* AUT 163, AUT 164; *Corequisite:* AUT 261)

AUT 263 **Advanced Automotive Electrical Technology** **2**
This course will further reinforce theories and principles of automotive electronics through the use of diagnostic equipment for practical troubleshooting scenarios. Students will learn advanced techniques of wiring diagram reading. 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 discussed.
(*Prerequisite:* IET 101, VMR 159, VMR 160; *Corequisite:* AUT 264)

AUT 264 **Advanced Automotive Electrical Technology Lab** **1**
This lab will consist of problem scenarios created by the instructor. Students will perform specific tasks using the diagnostic equipment

covered in the lecture portion of this course. Shop experiments will be performed to trace and repair electrical issues with the use of wiring diagrams. Students will use their ability to follow electrical flow through a circuit on a vehicle wiring diagram to diagnose and repair wiring defects. Proper safety procedures related to electrical troubleshooting will also be practiced. High priority tasks recommended by ASE (Automotive Service Excellence) are completed as competency exercises. This will prepare students to take the ASE technician certification test for electrical and electronics.
(*Prerequisite:* IET 101, VMR 159, VMR 160; *Corequisite:* AUT 263)

AUT 265 Automatic Transmissions and Transaxles 2
This course covers the information and theory necessary to service automatic transmissions. Systematic troubleshooting procedures, adjustments and unit overhaul are discussed in this course. Students will learn how to find information on repairing and troubleshooting the modern electronically controlled automatic transmissions. This will prepare students to take the ASE technician certification test for automatic transmissions. (*Corequisite:* AUT 266)

AUT 266 Automatic Transmissions and Transaxles Lab 1
This lab contains practical competency tasks that students will perform to hone their skills diagnosing and servicing automatic transmissions. Systematic troubleshooting procedures, adjustments and unit disassembly and assembly 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 for automatic transmissions. (*Corequisite:* AUT 265)

AUT 267 Manual Transmissions and Differentials 2
This course covers the theory and service procedure on complete power-train systems for front-, rear-, and four-wheel drive vehicles. Students will be taught the theory and mechanics of manual transmissions, drive axles and final drives. The students will utilize the theory of operation to help with diagnosing defective drive line components. Proper safety procedures related to manual transmissions and differentials will be discussed. This will prepare students to take the ASE technician certification test manual transmissions and drive axles. (*Corequisite:* AUT 268)

AUT 268 Manual Transmissions and Differentials Lab 1
This lab includes disassembly and assembly of components of 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 practiced. Proper safety procedures related to

manual transmissions and differentials will also be used when performing tasks and live work. High priority competency tasks recommended by ASE (Automotive Service Excellence) are performed and assessed. This will prepare students to take the ASE technician certification test for manual transmissions and drive axles. (*Corequisite:* AUT 267)

IET 101 Introduction to Automotive & Diesel Electronics 2

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. Students will learn basic electricity and the theory behind Ohm's Law. Students will learn how to apply Ohm's law in an electrical circuit. Students will practice building simple circuits and be able to troubleshoot and calculate current, resistance and voltage in a circuit. This course is designed to give students a head start on the electrical and electronics in modern passenger cars, light trucks and heavy duty vehicles.

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

BET 231 **Medical Equipment Standards and Testing** **2**

The student learns the requirements and methods of testing medical equipment for conformance with 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 learn principles of 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.

BET 232 **Medical Equipment Standards and Testing Lab** **2**

Students perform extensive equipment testing to verify conformance with national standards and manufacturer's specifications. Students learn standard practices for electrical safety testing, and conformance with industry standards, manufacturer's specifications as they pertain to the HTM field. Extensive testing of medical devices including centrifuges, IV pumps and physical therapy devices is practiced with students proving their skills in performance tests. Equipment management software inventory and work order entry are practiced to prepare the student with entry-level HTM skills.

BET 233 **Physiological Monitoring Devices** **2**

This course explains many 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 cardiovascular system is prominent as the student learns the principles of electrocardiography and blood pressure measurement. The course concludes by examining ECG and pressure monitors, as well as the principles of other bedside monitoring parameters, and the types of specialized test equipment used in HTM to test and verify accuracy of these medical devices.

BET 234 **Physiological Monitoring Devices Lab** **2**

The course concludes by examining ECG and pressure monitors, concentrating on the test equipment used to test and verify accuracy. Specialized test equipment is used in hands-on training. Extensive testing of medical devices such as ECG, blood pressure, pulse oximetry and capnography is stressed with students proving their skills in performance

tests. Equipment management software inventory and work order entry are practiced to prepare the student with entry-level HTM skills.

BET 235 Life Support Systems 2

This course is an overview of the types of medical equipment needed to support patients who have 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. A mock certification exam is the capstone of this course.

BET 236 Life Support Systems Lab 2

Extensive testing of medical devices including defibrillators, external pacers, ventilators, and electrosurgical units is practiced with students proving their skills in performance tests. Specialized test equipment is used in hands-on training. Equipment management software inventory and work order entry are practiced to prepare the student with entry-level HTM skills.

BET 237 Specialized Medical Systems 2

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 modalities covered. The basic theory and function of each system is explained with emphasis on quality control, patient and personal safety.

BET 238 Specialized Medical Systems Lab 1

Lab experiments include video system setup and testing, diagnostic ultrasound familiarization and quality control checks, x-ray system familiarization and quality control checks and video display quality control checks. Equipment management software inventory and work order entry are practiced to prepare the student with entry-level HTM skills. Students prove their skills in performance tests.

BET 299 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. (*200 hours*)

Building and Property Maintenance

Course No.	Course Title	Credits
BPM 101	**Basics of Property Maintenance** This course will familiarize students with the basic skills needed to maintain commercial and residential properties. Students learn basic skills in electricity, carpentry, plumbing, HVAC, appliance repair, pest control, grounds keeping, and weatherization.	**2**
BPM 102	**Basics of Property Maintenance Lab** This course allows the students to apply the concepts covered in BPM 101. Students will apply the basic skills needed to maintain commercial and residential properties in the following areas: electrical, carpentry, HVAC, appliance repair, pest control, groundskeeping, and weatherization.	**1**
BPM 105	**Introduction to Plumbing** This introductory plumbing course will focus on teaching students to work with copper, flex, iron, and PVC piping. Students will also learn soldering, brazing, fitting identification, threading and more. Training prepares students to work in residential, commercial, and industrial settings with a concentration in installation and maintenance.	**2**
BPM 106	**Introduction to Plumbing Lab** This course allows the student to apply the concepts covered in BPM 105. Students will work with copper, flex, iron, and PVC piping. Students will also practice soldering, brazing, fitting identification, threading and more.	**1**

Building Trades Technology

Course No.	Course Title	Credits

BTT 101 **Introduction to the Construction Trades** **2**

This course is designed to give students an introduction to various specialties in the construction trades. Students will learn skills that are valued throughout the industry by receiving a broad overview of basic construction, HVAC, and electrical techniques.

BTT 102 **Introduction to the Construction Trades Lab** **3**

This course provides the opportunity for students to apply the theory and concepts learned in BTT 101. Students will practice the basic skills that are valued throughout the construction industry including carpentry, HVAC, and electrical techniques.

BTT 149 **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.

BTT 151 **Fundamentals of Electricity** **2**

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).(*Prerequisite:* BTT 101, BTT 102)

BTT 152 **Fundamentals of Electricity Lab** **1**

This course allows the student to apply the concepts covered in ECM 161. Students will practice using general safety principles, basic hand tools, glueprints, electrical safety, circuit construction and operation. (*Prerequisite:* BTT 101, BTT 102)

BTT 251 **Motor and Controls** **2**

This course covers the fundamental concepts of motors and motor controls. Topics include ladder diagrams, pilot devices, contactors, motor starters, motors, and other control devices. This course also covers 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. Upon completion, students will be able to properly select, connect, and troubleshoot motors and control circuits.

BTT 252 **Motor and Controls Lab** **4**

This course provides students with the opportunity to apply the theory and concepts covered in BTT 251. Students will practice working with ladder diagrams, pilot devices, contactors, motor starters, motors, and other control devices. They will also work with industrial electrical systems, industrial electronic devices, programmable controllers, welding, boilers, HVAC, mechanical and pneumatic and fluid power systems. Upon completion, students will be able to properly select, connect, and troubleshoot motors and control circuits.

Business Management - Project Management Track

Course No.	Course Title	Credits

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. (*Prerequisite:* BUS 101)

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. The curriculum is derived from the Project Management Body of Knowledge (PMBOK). The course will help prepare students to sit for the CAPM or PMP certification exams. (*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, create and define a new project plan, create and organize tasks, manage resources in a project plan, and finalize a project plan. Students will be assigned a campus-based project through which they will apply the skills learned throughout the program. (*Prerequisite:* BUS 201)

ECO 101 **Introduction to Economics** **3**

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, 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.

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 Part I of the APICS CPIM 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 Part II of the APICS CPIM Certification exam. In addition, standard measurements for inventory and materials will be examined. (*Prerequisite:* LOG 191)

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. (*Prerequisites:* BUS 101, MAT 121)

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. (*Prerequisite:* 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. (*Prerequisite:* MNG 185)

Carpentry & Cabinetmaking Technology

Course No.	Course Title	Credits

CCM 169 **Cabinet and Component Construction** **2**

The focus of this course is the 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 as are the properties of wood and the fasteners used in the carpentry/cabinetmaking field. The student will continue to learn the safe use of sanding machines, table saw, radial arm saw, band saw, planer, jointer, overarm router, drill press, shaper, and the tenoner. (*Prerequisite:* BTT 101, BTT102; *Corequisite*: CCM 170)

CCM 170 **Cabinet and Component Construction Lab** **4**

This course provides the opportunity for students to apply the theory and concepts of CCM 169 Cabinet and Component Construction. Students will practice cutting components and construction of cabinets, face frames, doors and drawers common to the cabinetmaking industry. Students will design, cut, assemble, and finish cabinets and various other woodworking projects. (*Prerequisite:* BTT 101, BTT102; *Corequisite*: CCM 169)

CCM 231 **Site Layout, Foundations and Framing Principles** **2**

This course covers footing and foundation, the use of the structure, soil and climate conditions, methods of construction, and placement of the structure on the lot. Site layout procedures and the use of common leveling instruments are studied. Elements of the building codes and zoning laws that apply to site layout procedures are also examined in this course. This course also 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. Construction terminology, materials estimating, and proper construction techniques give the student a broad knowledge of modern construction practices. (*Prerequisite:* CCM 169, CCM 170; *Corequisite*: CCM 232)

CCM 232 **Site Layout, Foundations and Framing Principles Lab** **4**

This course provides the opportunity for students to apply the theory and concepts of CCM 231 Site Layout, Foundations, and Framing Principles. Students will practice site layout procedures and use common leveling instruments. Students will also practice floor and wall framing. CCM 169, CCM 170; *Corequisite*: CCM 232)

CCM 233 **Interior/Exterior Finishes** **2**

Interior and Exterior Finishes is the study of common materials and procedures used for finishing the interior and exterior of a building. Students will be exposed to skills in the safe use of equipment and materials common to the construction industry. *(Corequisite*: CCM 234)

CCM 234 **Interior/Exterior Finishes Lab** **4**

This course provides the opportunity for students to apply the theory and concepts of CCM 231 Site Layout, Foundations, and Framing Principles. Students will practice site layout procedures and use common leveling instruments. Students will also practice floor and wall framing. *(Corequisite*: CCM 233)

CCM 235 **Roof Framing and Stair Building** **2**

This course includes the study of gable roofs, hip roofs, intersecting roofs, and special roof systems. Students will study the applicable building codes, solve for rafter lengths, estimate materials, and other operations required for roof framing. Students will also learn the basics of stair construction including design and configuration of stairs and methods of layout and construction. *(Corequisite*: CCM 236)

CCM 236 **Roof Framing and Stair Building Lab** **4**

This course provides the opportunity for students to apply the theory and concepts of CCM 235 Roof Framing and Stair Building. Students will practice design, layout, and construction of roofing systems and stairs. *(Corequisite*: CCM 235)

Computer Information Technology

Course No.	Course Title	Credits

CIT 181 **Computer Hardware and Operating Systems** **2**

The focus of this course includes, but is not limited to the essential knowledge 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 gained in this course will help prepare students for the CompTIA A+ Essentials and Practical Application certification examinations.

CIT 182 **Computer Hardware and Operating Systems Lab** **1**

The focus of this lab includes, but is not limited to the essential "hands-on" 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. "Hands-on" experience gained in this course will help prepare students for the CompTIA A+ Essentials and Practical Application certification examinations.

CIT 183 **Network Architectures, Principles, and Protocols** **2**

The focus of this course includes, but is not limited to a vendor-neutral view of the knowledge 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 gained in this course will help prepare students for the CompTIA Network+ and CompTIA A+ Essentials.

CIT 184 **Network Architectures, Principles, and Protocols Lab** **1**

The focus of this lab includes, but is not limited to a vendor-neutral "hands-on" practice necessary to design, install and support modern networking systems. This course builds the student's "hands-on" knowledge of network media, topologies, and network implementation methods, as well as, support skills. This course also covers topics such as safety, environmental issues and professionalism. During the completion of this lab students will design, build and test a complete Local Area Network. "Hands-on" experience gained in this course will help prepare students for the CompTIA Network+ and CompTIA A+ Essentials.

CIT 185 TCP/IP Network Design Configuration and Maintenance 2
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. Knowledge gained in this course will help prepare students for the CompTIA A+ Essentials certification examinations, as well as many Cisco certification examinations.

CIT 186 TCP/IP Network Design Configuration and Maintenance Lab 1
This lab provides the foundational information needed and "hands-on" practice necessary to understand basic network design, management, maintenance and support. Students will learn to configure and support TCP/IP on both Microsoft and Linux based networks, as well as install and support TCP/IP applications and services. "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 187 Linux Networking Service and Support 2
The focus of this course includes the exploration of the theory behind tools, techniques, procedures and utilities necessary to design and implement a Linux-based Local Area Network. The coursework includes comprehensive details of potential areas of network and system configuration, troubleshooting, performance monitoring, debugging. Writing shell scripts for the purpose of performance monitoring and troubleshooting in a Linux environment will be covered in depth. Knowledge gained in this course will help prepare students for the CompTIA Linux +.

CIT 188 Linux Networking Service and Support Lab 1
The focus of this lab includes the "hands-on" exploration of tools, techniques, procedures and utilities necessary to design, implement and support a Linux-based Local Area Network. The lab work includes but is not limited to comprehensive details of network and system configuration, troubleshooting, performance monitoring, and debugging. Students will write shell scripts for the purpose of performance monitoring and troubleshooting in a Linux environment. "Hands-on" experience gained in this course will help prepare students for the CompTIA Linux +.

CIT 189 Information System Security Design and Administration 2
The focus of this course includes theory necessary to pass the CompTIA Security + certification examination. Students will learn to design and implement a secure and reliable Local Area Network, and physical environment. The theory behind successful administration of both Windows and Linux users, groups and their permissions within the network environment, as well as drafting many relevant IT and physical security policy statements for a network environment will be covered in

depth. Students will also begin to explore the theory behind a Disaster Recovery plan for a sustainable & secure network environment; students will use this to begin building their own unique portfolio.

CIT 190 Information System Security Design and Administration Lab 1

The focus of this lab includes hands-on experience necessary to pass the CompTIA Security + 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 worked as well. Students will also begin to prepare a Disaster Recovery plan for a sustainable & secure network environment. Students will use their Disaster Recovery Plan to begin building their own unique portfolio. "

CIT 281 LAN/WAN Design and Maintenance Principles 2

The focus of this course includes the exploration of theory essential to designing, securing, and building an effective routed Local and Wide Area Networks. Students will also gain knowledge necessary for creating VLANS and trunk ports. Knowledge gained in this course will help prepare students for the Cisco CCNA ICND1 examination.

CIT 282 LAN/WAN Design and Maintenance Principles Lab 1

The focus of this lab includes the exploration of lab exercises essential to designing, securing, and building an effective routed Local and Wide Area Networks. Students will also gain "hands-on" experience creating VLANS and trunk ports. "Hands-on" experience gained in this course will help prepare students for the Cisco CCNA ICND1 examination.

CIT 283 Server and Network Operating System Principles 2

The focus of this course includes the theory related Installation and configuring of Windows Server. The course also includes but is not limited to both the theory of on-site and remote service and support network servers. The theory covered includes the interconnection of multiple servers. Active directory and network services will also be covered.

CIT 284 Server and Network Operating System Principles Lab 1

The focus of this lab includes "hands-on" experience related to both on-site and remote service and support network servers. "Hands-on" Lab-work includes the Installation, local and remote management, file storage services, Active Directory, Group Policies, TCP/IP Networking services and Hyper-V. Students successfully completing this lab will gain "hands-on" knowledge required to obtain the Microsoft MCSA certification.

CIT 285 **Advanced Network Operating System Principles** **2**

The focus of this course includes advanced theory and principles related to industry standard server Network Operating System platform and server virtualization. Theory of Installation, configuration and remote administration of both Host Network Operating Systems and Guest Network Operating System network services and Active Directory will be covered in detail. Theory relating to service and support of both Microsoft and Linux based server platforms, as well as Microsoft Internet Information Server will explored.

CIT 286 **Advanced Network Operating System Principles Lab** **1**

The focus of this lab includes "hands-on" experience related to Microsoft's newest server platform and features. The scope of the "hands-on" experience in this lab includes but is not limited to Storage Space Direct, Nano Server, and Windows Containers, and Hyper-V virtualization. Installation, configuration and remote administration of both Host Network Operating Systems and Guest Network Operating Systems. Students successfully completing this lab will gain "hands-on" knowledge required to obtain the Microsoft MCSA, as well as the Cloud Platform and Infrastructure certification.

CIT 289 **Web Programming, Server Side Scripting** **2**

The focus of this course includes, but is not limited to an introduction to theory related to server-side scripting and web data access using a currently popular server side application platform and relational database. **(***Prerequisites:* CIT 283, CIT 284, DAT 201, PRG 101)

CIT 290 **Web Programming, Server Side Scripting Lab** **2**

The focus of this lab 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.
(*Prerequisites:* CIT 283, CIT 284, DAT 201, PRG 101)

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. (*Prerequisite:* PRG 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

DTT 175 **Diesel Engine Overhaul** **2**

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. This will prepare students to take the ASE technician certification test.

DTT 176 **Diesel Engine Overhaul Lab** **2**

Diesel engine principles of operation on four- and two-stroke engines are covered with competency based tasks the students are required to perform. Component identification, measurement and replacement, along with complete tear down and overhaul procedures are practiced in this lab. High priority tasks recommended by ASE (Automotive Service Excellence) are covered. This will prepare students to take the ASE technician certification test.

DTT 177 **Diesel Fuel Injection and Emissions** **2**

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. This will prepare students to take the ASE technician certification test.

DTT 178 **Diesel Fuel Injection and Emissions Lab** **1**

This lab expereince includes competency tasks on the diagnosis and service of the different types of diesel fuel injection pumps, nozzles and injectors, including current electronic fuel injectors. In-depth servicing and repair of fuel system preventive maintenance, troubleshooting diagnostics, injection pump timing and installation procedures, and replacement methods for injectors and nozzles are practiced in this lab. High priority tasks recommended by ASE (Automotive Service Excellence) are covered. This will prepare students to take the ASE technician certification test.

DTT 179 **Diesel Engine Performance Tune-up Procedures** **2**

This course covers information and theory on the operation and approved servicing, troubleshooting, and tune-up procedures on several different

current models of diesel engines. This will prepare students to take the ASE technician certification test.

DTT 180 **Diesel Engine Performance Tune-up Procedures Lab** **2**
This lab includes competency based tasks on the operation and approved servicing, troubleshooting, and tune-up procedures on several different current models of diesel engines. Students will practice these competencies and be assessed on industry standards. High priority tasks recommended by ASE (Automotive Service Excellence) are covered. This will prepare students to take the ASE technician certification test.

DTT 277 **Manual Transmission Overhaul** **2**
This course covers the information and theory of heavy duty truck manual transmissions. New learning experiences include inspection, replacement, servicing, rebuild procedures, proper diagnostics of manual transmissions and power take-off systems. This will prepare students to take the ASE technician certification test.

DTT 278 **Manual Transmission Overhaul Lab** **1**
This lab includes competency based tasks on the operation and approved servicing, troubleshooting, and tune-up procedures on several different current models of diesel engines. 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.

DTT 279 **Differentials and Drive Line** **2**
This course covers the theory of operation of the heavy duty truck differentials and drive lines. Students will learn how the differential is used to transfer energy to the wheels of the vehicle. Students will be trained in the theory of transferring engine power to the final drive of the vehicle utilizing the drive shaft. All components of this system will be described and the operation of each will be explained. This will prepare students to take the ASE technician certification test.

DTT 280 **Differentials and Drive Line Lab** **1**
This includes competency based tasks on overhaul, service and troubleshooting of the rear differentials and drive shafts. All safety procedures involved in working with differentials and drive lines will be followed while participating in the lab activities.High priority tasks recommended by ASE (Automotive Service Excellence) are covered. This will prepare students to take the ASE technician certification test.

DTT 281 **Automatic Transmission Diagnostics, Basic Hydraulics** **2**
This course provides information and practical theory necessary to service automatic transmissions found in many heavy diesel trucks. Systematic

troubleshooting procedures are all part of this program to assist the technician in the proper repair procedures, installation, and repair of hydraulic systems. This will prepare students to take the ASE technician certification test.

DTT 282 **Automatic Transmission Diagnostics, Basic Hydraulics Lab 1**
This lab will have students performing competency tasks that include but are not limited to, transmission removal, disassembly, component inspection and measurements, and reassembly. Systematic troubleshooting procedure tasks are all part of this lab to assist the technician in the proper repair procedures, installation, and repair of hydraulic systems. High priority tasks recommended by ASE (Automotive Service Excellence) are covered. This will prepare students to take the ASE technician certification test.

DTT 283 **Applied Diesel Truck Principles and Applications 2**
This course is intended to re-examine and emphasize specific mechanical knowledge and diagnostic experience and to apply that to principles and theories learned in previous courses. Students are expected to hone the specific skills to prepare them for entry-level positions upon graduation. This will prepare students to take the ASE technician certification test.

DTT 284 **Applied Diesel Truck Principles and Applications Lab 2**
This lab is intended to re-examine and emphasize specific mechanical skills and diagnostic techniques and to apply them to principles and theories learned in previous courses. Students are expected to hone the specific skills by performing competency tasks to industry standards. Doing this will prepare students for entry-level positions upon graduation. High priority tasks recommended by ASE (Automotive Service Excellence) are covered. This will prepare students to take the ASE technician certification test.

IET 101 **Introduction to Automotive & Diesel Electronics 2**
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. Students will learn basic electricity and the theory behind Ohm's Law. Students will learn how to apply Ohm's law in an electrical circuit. Students will practice building simple circuits and be able to troubleshoot and calculate current, resistance and voltage in a circuit. This course is designed to give students a head start on the electrical and electronics in modern passenger cars, light trucks and heavy duty vehicles.

Electrical Construction & Maintenance Technology

Course No.	Course Title	Credits

ECM 161 **Residential Wiring** **2**

This course covers general safety principles, basic construction guidelines and laws governing electricity, basic hand tool usage, print reading, electrical safety, circuit construction and operation. (Prerequiste: BTT 101, BTT 102).

ECM 162 **Residential Wiring Lab** **4**

This provides the opportunity to practice the concepts of Residential Wiring. Students will apply general safety principles, basic construction guidelines and laws governing electricity, basic hand tool usage, print reading, electrical safety, circuit construction and operation. Lab times for this course will be scheduled both on and off campus.(Prerequiste: BTT 101, BTT 102).

ECM 259 **Applied Practice and Special Topics** **2**

This comprehensive 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 260 **Applied Practice and Special Topics Lab** **2**

This comprehensive course allows the student to apply the concepts covered in ECM 259. It is intended to be student project based which will prepare students for an entry-level position.

ECM 271 **Electrical Grounding, Bonding, & Service Installation** **2**

This course is a continuation of electrical residential wiring. The focus of this course is problem-solving skills 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 continued to be discussed in this course.
(Prerequisite: ECM 161 and ECM 162).

ECM 272 **Electrical Grounding, Bonding, & Service Installation Lab** **1**

This provides the opportunity for students to apply the concepts and theories discussed in ECM 271. The focus of this course is problem-solving skills 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 continued to be discussed in this course. *(Prerequisite:* ECM 161 and ECM 162).

ECM 273 **National Electric Code Interpretation** **1**

The purpose of this course is to locate and interpret the sections in the NEC pertaining to electrical installations; calculate the size of conductors, boxes, raceways, and overcurrent protective devices for branch circuits supplying electrical equipment, calculate conductor size, overcurrent protection for service equipment as applied to building services and compute the size of branch circuits, feeders and equipment for motors.

ECM 275 **Commercial Wiring** **2**

This course provides information about the installation of electrical systems for commercial buildings, reading architectural drawings, and branch circuit feeders and installation, as well as appliance and special systems found in commercial buildings. Three phase circuits and inductive loads will be covered in this course.

ECM 276 **Commercial Wiring Lab** **1**

This course provides practical experience in installation of electrical systems for commercial buildings, reading architectural drawings, and branch circuit feeders and installation, as well as 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. Lab times for this course will be scheduled both on and off campus..

ECM 277 **Industrial Maintenance and Mechanics** **2**

This course covers the theory and practice of industrial mechanics including calculations, rigging, lifting, ladders, hydraulics, lubrication, flexible belt drive systems, vibration and alignment. This course also covers service and repair principles and practices for industrial electrical systems, industrial electronic devices, programmable controllers, boilers, HVAC, mechanical, pneumatic and fluid power system.

ECM 278 **Industrial Maintenance and Mechanics Lab** **1**

This course provides students with the opportunity to apply the knowledge learned in ECM 277. Students will practice of industrial mechanics including calculations, rigging, lifting, ladders, hydraulics, lubrication, flexible belt drive systems, vibration and alignment. Students will also covers service and repair principles and practices for industrial electrical systems, industrial electronic devices, programmable controllers, boilers, HVAC, mechanical, pneumatic and fluid power systems.

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 161 **DC Electricity and Instrumentation** **2**

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 receive instruction on 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. *(Corequisite:* EET 162)

EET 162 **DC Electricity and Instrumentation Lab** **1**

This course applies the theory taught in EET 161 through hands on building and testing of basic electric circuits. The student will also gain practical experience in soldering, digital multi-meter usage, and Ohm's Law applications for testing and troubleshooting the electric circuits they build. Elements of proper disposal of batteries and other circuit components considered hazardous waste are emphasized throughout this course. *(Corequisite:* EET 161)

EET 163 **Alternating Current and Passive Devices** **2**

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. *(Corequisite:* EET 164)

EET 164 **Alternating Current and Passive Devices Lab** **1**

This course applies the theory taught in EET 163 through hands on building and testing of basic AC circuits. The student will use oscilloscopes and digital meters to measure amplitude, frequency and phase of an AC signal. As the student progresses through the course, test equipment will be used to test transformers, inductive circuits, capacitive circuits, and passive filters. The student will also be introduced to troubleshooting techniques and have time to practice those techniques on circuits they build. *(Corequisite:* EET 163)

EET 165 **Digital Electronics** **2**

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 introducing the student to the different digital codes, seven segment displays and flip-flops with emphasis placed on schematic interpretation, nomenclature and troubleshooting. This course continues with 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. *(Corequisite:* EET 166)

EET 166 Digital Electronics Lab 2

This course is designed to provide the student with hands on testing and troubleshooting of the digital circuits discussed in EET 169. The circuits investigated will begin with basic logic gates and continue through flip-flops, counters, and shift registers. The student will be expected to use test equipment, such as the oscilloscope, digital meter and logic probe, to test and troubleshoot the circuits built throughout this course.
(Corequisite: EET 165)

EET 167 Introduction to Semiconductors 2

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 161, EET 163; *Corequisite:* EET 168)

EET 168 Introduction to Semiconductors Lab 1

This course provides the student with the opportunity to apply the theoretical concepts from EET 165 to real world circuits. The student will use various pieces of test equipment to verify circuit operation and to troubleshoot circuits that are faulty. At all times safety will be emphasized throughout this course. Some of the circuits included in this course are rectifiers, voltage multipliers, amplifiers from the bipolar junction transistor and the field effect transistor families. The student will use digital meters and oscilloscopes to evaluate the operational performance of the circuits used in this course.
(*Prerequisites*: EET 161, EET 163; *Corequisite:* EET 167)

EET 169 Integrated Circuits and Thyristors 2

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 to identify the characteristics, circuitry, and methods of troubleshooting this family of components.
(*Prerequisites*: EET 161, EET 163; *Corequisite:* EET 170)

EET 170 Integrated Circuits and Thyristors Lab 1
This course will provide the student the opportunity to work with operational amplifiers integrated voltage regulators and 555 universal timers. These devices and others will be used to build and troubleshoot amplifiers, active filters and power supply circuits. The thyristors family of electronic components is also investigated through experimentation, testing and troubleshooting.
(*Prerequisites*: EET 161, EET 163; *Corequisite:* EET 169)

EET 261 Communication Electronics 2
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. The topics of safety and testing of communication circuits are an integral part of this course.
(*Prerequisites*: EET 163, EET 165, and EET 169; *Corequisite:* EET 262)

EET 262 Communication Electronics Lab 1
This course has the student work with test equipment used to design and evaluate circuits common to the communications industry. Students in this course will work with oscilloscopes, spectrum analyzers, digital meters, RF meters, ELVIS and LabVIEW testing environments. Construction, safety and testing of communication circuits are an integral part of this course.
(*Prerequisites*: EET 163, EET 165, and EET 169; *Corequisite:* EET 261)

EET 263 Industrial Electronics 2
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 165 & EET 167; *Corequisite:* EET 264)

EET 264 Industrial Electronics Lab 1

This course applies the theory discussed in EET 263 to practical circuits used in industry. The student begins with building and testing circuits used for timing and power control. The student will then build and test motor control circuits using starters, control relays, sensors, transducers and output devices to build working control topologies. Safety and safe troubleshooting techniques are emphasized throughout the course.
(*Prerequisites*: EET 165 & EET 167; *Corequisite:* EET 263)

EET 265 Applied Electronics Principles & Applications 2
This course is intended to provide practical electronic projects and procedures to principles and theories learned over the previous courses. 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.
(*Prerequisites:* EET 263, AMT 253 & ART 105; *Corequisite:* EET 266)

EET 266 Applied Electronics Principles & Applications Lab 2
In this course students will evaluate pieces of test equipment to hone their skills in measurement and troubleshooting in various scenarios. The students will be expected to work with oscilloscopes, digital meters, spectrum analyzers, soldering equipment, other pieces of test equipment, and time management in practical settings.
(*Prerequisites:* EET 263, AMT 253 & ART 105; *Corequisite:* EET 265)

Heating Ventilation & Air Conditioning Technology

Course No.	Course Title	Credits

HAC 175 **Pipefitting** **2**

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. (Prerequisite: BTT 101, BTT102)

HAC 176 **Pipefitting Lab** **1**

This course allows the student to apply the concepts covered in HAC 175. Students will use the fundamental tools, equipment, and procedures used in pipefitting. Students will match system components and make proper connections. The student will also practice duct work fabrication. (Prerequisite: BTT 101, BTT102)

HAC 189 **Refrigeration** **2**

This course familiarizes the students with safety procedures, tools and materials, principles of operation, and real-world applications relevant to refrigeration. This course covers the study of commercial refrigeration, chiller systems, water cooled condensers, semi hermetic compressors and special refrigeration components. Different applications of refrigeration systems will also be covered. Troubleshooting commercial refrigeration equipment will be included, as well as HVAC roof top installations/unit replacements and HVAC preventive maintenance. (Prerequisite: BTT 101, BTT102)

HAC 190 **Refrigeration Lab** **4**

This course provides the opportunity for students to apply the theory and concepts of HAC 285 Refrigeration. Students will practice safety procedures while using tools and materials to apply principles of operation and applications relevant to refrigeration. Students will troubleshoot, maintain, and repair various refrigeration units. (Prerequisite: BTT 101, BTT102)

HAC 285 **Air Conditioning Systems** **2**

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

discussed, and components are arranged to meet specifications and to comply with codes. *(Prerequisites:* HAC 189, HAC 190*)*

HAC 286 Air Conditioning Systems Lab 2

This course allows the student to apply the concepts covered in HAC 189. Students will design, operate, and install air conditioning systems. Students will calculate the appropriate formulas to meet specifications and to comply with codes. *(Prerequisites:* HAC 189, HAC 190*)*

HAC 283 Heating System Design & Installation 2

This course covers the study of hydronic heating systems, boiler installations, start-up procedures, combustion analysis, and zoning boiler systems. Oil fired boilers will be covered as well as natural gas fired boilers, condensing boilers and related sequence of operation for all of the above mentioned systems. This course also covers the study of gas, fuel oil, electric, and coal heating systems. It includes the calculation of heat requirements, circulation, and heat loss. Heat loss formulas are studied, and used, to determine the heating needs within a variety of climate zones, and when sizing homes/buildings for proper installation of heating equipment. Troubleshooting and repair of heating equipment will also be covered.

HAC 284 Heating System Design & Installation Lab 4

This course provides the opportunity for students to apply the theory and concepts of HAC 283 Heating System Design & Installation. Students will practice safety procedures while using tools and materials to apply principles of operation and applications relevant to heating systems. Students will install, troubleshoot, maintain, and repair various heating system units.

HAC 289 Applied Practice and Special Topics 1

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 courses. 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 290 Applied Practice and Special Topics Lab 3

This course allows the student to apply the concepts covered in previous HAC courses. Students will apply diagnostic techniques in all areas of previous study. 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)

Heavy Equipment Technology

Course No.	Course Title	Credits

HET 253 **Drive Components & Systems** **1**

An introduction to the theory and operation of heavy-duty vehicle power trains. This course explores the principles of torque multiplication in transmissions, differential carriers and final drives. Clutches, torque converters and drivelines will also be covered. This course also explores the theory and operation of countershaft and planetary power shift transmissions used in today's off-highway equipment. Students will also examine planetary final drives and differential carriers used in heavy equipment.

HET 254 **Drive Components & Systems Lab** **2**

This course provides students with the opportunity to apply the knowledge and theory learned in HET 253. Students will maintain and troubleshoot various drive components.

HET 255 **Hydraulic Systems** **2**

The student will study principles of hydraulics, identification of components, operation, fluids, and preventive maintenance. Students will use test instruments such as high-pressure gauges and flow meters to troubleshoot and diagnose hydraulic pump efficiency and condition of related system components. System components are disassembled and reassembled, with adjustments made to main and circuit reliefs in accordance with manufacturer’s specifications.

HET 256 **Hydraulic Systems Lab** **3**

This course provides students with the opportunity to apply the knowledge and theory learned in HET 255. Students will practice with hydraulic circuits, applications, and will evaluate hydraulic components by inspecting and testing.

HET 257 **Heavy Equipment Maintenance and Repair** **1**

This course focuses on the maintenance and repair of the components of various forms of heavy equipment. Students will practice their diagnosis skills, safety practices, and maintenance skills as they identify, correct, and prevent equipment malfunctions.

HET 258 **Heavy Equipment Maintenance and Repair Lab** **2**
This course focuses on the maintenance and repair of the components of various forms of heavy equipment. Students will practice their diagnosis skills, safety practices, and maintenance skills as they identify, correct, and prevent equipment malfunctions.

HET 259 **John Deere Specialization** **4**
This work experience is designed to expose the student to an actual commercial environment. Students will work with a certified John Deere facility where they will focus their skills on John Deere equipment. 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. Students submit an application for this internship to the HET Program Director. Minimum requirements include a 3.5 GPA, and completion of the following: all general education courses, DTT courses within the Heavy Equipment program, and all HET courses below the 257 level.

HET 283 **Applied Heavy Equipment Principles and Applications** **1**
This course is intended to re-examine and emphasize specific mechanical knowledge and diagnostic experience and to apply that to principles and theories learned in previous courses. Students are expected to hone the specific skills to prepare them for entry-level positions upon graduation.

HET 284 **Applied Heavy Equipment Principles and Applications Lab** **3**
This lab is intended to re-examine and emphasize specific mechanical skills and diagnostic techniques and to apply them to principles and theories learned in previous courses. Students are expected to hone the specific skills by performing competency tasks to industry standards. Doing this will prepare students for entry-level positions upon graduation.

INT 299 **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

Logistics & Supply Chain Management

Course No.	Course Title	Credits

ACC 101 **Accounting I** **3**

This introductory course covers the basic principles of accounting: the accounting equation, the accounting cycle, the trial balance, accounting worksheets, adjusting and closing entries and the preparation of basic financial statements will be covered. Students will also gain familiarity with pertinent Microsoft Excel functions as they apply to the business setting.

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. (*Prerequisites*: BUS 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. The curriculum is derived from the Project Management Body of Knowledge (PMBOK). The course will help prepare students to sit for the CAPM or PMP certification exams. (*Prerequisite*: BUS 101)

ECO 101 **Introduction to Economics** **3**

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, 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.

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 Part I of the APICS CPIM Certification exam.

LOG 192 **Transportation Management** **3**

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.

LOG 194 **Warehousing and Distribution** **3**

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. (*Prerequisite:* LOG 191)

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 Part II of the APICS CPIM Certification exam. In addition, standard measurements for inventory and materials will be examined. (Prerequisite: LOG 191)

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. The course will center around the Lean Six Sigma methodologies and will help prepare students for the Yellow Belt or Green Belt examinations.

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 298 **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.)

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. (*Prerequisite:* 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. (*Prerequisite:* MNG 185)

Physical Therapist Assistant

Course No.	Course Title	Credits

PTA 103 **Introduction to Physical Therapy for the Physical Therapist Assistant** **2**

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).
Prerequisites: Completion of all general education requirements.

PTA 151 **Patient Care** **2**

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, bed mobility, transfer techniques, gait training, appropriate selection and use of assistive devices, wheelchair management, and documentation.
Prerequisites: Completion of all general education requirements.

PTA 152 **Patient Care Lab** **1**

This lab course aligns with PTA 151 and focuses on the application and practice of the skills learned in PTA 151 with special attention to technique and safety. The focus is on general patient care skills required of a PTA, including, but not limited to: assessing/monitoring vital signs, body mechanics, positioning and draping, bed mobility, transfer techniques, gait training, appropriate selection and use of assistive devices, wheelchair management.
Prerequisites: Completion of all general education requirements.

PTA 153 **Physical Therapy Procedures** **2**

This course introduces students to the therapeutic use of physical agents. Topics studied and applied include superficial heat, cryotherapy, ultrasound, diathermy, hydrotherapy, traction, compression, electrical modalities, light therapy, biofeedback, and ultraviolet radiation. Students will be introduced to principles, indications, contraindications, precautions, and application techniques.
Prerequisites: Completion of all general education requirements.

PTA 154 **Physical Therapy Procedures Lab** **1**

This lab course aligns with PTA 153 and focuses on the application of the therapeutic physical agents with special attention to technique and safety.

Students will be required to demonstrate competency on the application and judicial use of superficial heat, cryotherapy, ultrasound, diathermy, hydrotherapy, traction, compression, electrical modalities, biofeedback, light therapy, and ultraviolet radiation.
Prerequisites: Completion of all general education requirements.

PTA 155 Principles of Therapeutic Exercise 1
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 muscle performance for the prevention, treatment, and management of injuries. *Prerequisites:* Completion of all general education requirements.

PTA 156 Principles of Therapeutic Exercise Lab 1
This lab course aligns with PTA 155 and focuses on the implementation of therapeutic interventions commonly used in physical therapy clinics with special attention to technique and safety. The focus is on therapeutic interventions including but not limited to: strengthening, stretching, aerobic exercise, PNF, NDT, motor learning, and functional activities. *Prequisites:* Completion of all general education requirements.

PTA 221 Pathophysiology 2
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 223 Applied Kinesiology 3
This course delivers an in-depth study of the musculoskeletal system and body movement. The study of human movement from the point of view of the physical sciences. Fundamentals of human motion are examined from the anatomical, physiological and biomechanical perspectives with an emphasis on motor skill application.
Prerequisites: Completion of all general education requirements.

PTA 224 **Applied Kinesiology Lab** **1**

This lab course aligns with PTA 223 and focuses on the application of the biomechanical principles and muscle actions of each region to gait and postural analysis, manual muscle testing, and goniometry with attention to safety and technique.

Prerequisites: Completion of all general education requirements.

PTA 255 **Interventions in Musculoskeletal** **3**

This course includes an exploration of pathology, prevention and management of injuries and conditions associated each region of the musculoskeletal system with a focus on the role of the physical therapist assistant in implementing a physical therapy plan of care.

Prerequisites: Completion of PTA 103, PTA 151, PTA 152, PTA 153, PTA 154, PTA 155, PTA 156, PTA 221, PTA 223, PTA 224.

PTA 256 **Interventions in Musculoskeletal Lab** **1**

This lab course aligns with PTA 255 and focuses on the integration and practice of previously learned material and new skills / techniques / interventions commonly used to treat pathologies of the musculoskeletal system with a focus on the role of the physical therapist assistant in implementing a physical therapy plan of care.

Prerequisites: Completion of PTA 103, PTA 151, PTA 152, PTA 153, PTA 154, PTA 155, PTA 156, PTA 221, PTA 223, PTA 224.

PTA 257 **Interventions in Neurology** **3**

This course is an introduction to neuro-rehabilitation for the PTA. Topics include but are not limited to normal movement development across the lifespan, motor control, motor learning, and neuroplasticity, along with an exploration of pathology and management of a variety of neurological disorders including but limited to CVA, spinal cord injury, traumatic brain injury, and degenerative neurological conditions.

Prerequisites: Completion of PTA 103, PTA 151, PTA 152, PTA 153, PTA 154, PTA 155, PTA 156, PTA 221, PTA 223, PTA 224.

PTA 258 **Interventions in Neurology Lab** **1**

This lab course aligns with PTA 257 and focuses on the integration of previously learned material and new skills/techniques into the comprehensive rehabilitation of selected neurological disorders with a focus on the role of the physical therapist assistant in implementing a physical therapy plan of care.

Prerequisites: Completion of PTA 103, PTA 151, PTA 152, PTA 153, PTA 154, PTA 155, PTA 156, PTA 221, PTA 223, PTA 224.

PTA 259 **Topics in Rehabilitation** **3**

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.
Prerequisites: Completion of PTA 103, PTA 151, PTA 152, PTA 153, PTA 154, PTA 155, PTA 156, PTA 221, PTA 223, PTA 224.

PTA 260 Topics in Rehabilitation Lab 1
This lab course aligns with PTA 259 and focuses on the integration of previously learned material and new skills/techniques into the comprehensive rehabilitation of a variety of populations in rehabilitation with a focus on the role of the physical therapist assistant in implementing a physical therapy plan of care.
Prerequisites: Completion of PTA 103, PTA 151, PTA 152, PTA 153, PTA 154, PTA 155, PTA 156, PTA 221, PTA 223, PTA 224.

PTA 295 Professional Seminar 1
This course will provide students with the tools necessary for professional development after graduation, including but not limited to resume writing and preparation for the NPTE for PTA's.
Prerequisites: Completion of PTA 103, PTA 151, PTA 152, PTA 153, PTA 154, PTA 155, PTA 156, PTA 221, PTA 223, PTA 224, PTA 255, PTA 256, PTA 257, PTA 258, PTA 259, PTA 260.

PTA 270 Clinical Experience I 2
This is the first of three clinical experiences. It is an integrated part-time clinical experience that will take place during the students' fourth 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. Students will 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 PTA 103, PTA 151, PTA 152, PTA 153, PTA 154, PTA 155, PTA 156, PTA 221, PTA 223, PTA 224.
Also must be enrolled in PTA 255, PTA 256, PTA 257, PTA 258, PTA 259, and PTA 260.

PTA 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 PTA 103, PTA 151, PTA 152, PTA 153, PTA 154, PTA 155, PTA 156, PTA 221, PTA 223, PTA 224, PTA 255, PTA 256, PTA 257, PTA 258, PTA 259, PTA 260, & PTA 270.

PTA 290 Clinical Experience III 5

This final clinical experience will take place after **PTA 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 **PTA 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 PTA 103, PTA 151, PTA 152, PTA 153, PTA 154, PTA 155, PTA 156, PTA 221, PTA 223, PTA 224, PTA 255, PTA 256, PTA 257, PTA 258, PTA 259, PTA 260, PTA 270, & PTA 280.

BIO 107 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.

BIO 108 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.

BIO 109 **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. *Prerequisite:* BIO 107+108 with grade of 80% or higher

BIO 110 **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. *Prerequisite*: BIO 107+108 with grade of 80% or higher

Radiologic Technology

Course No.	Course Title	Credits

RAD 151 **Radiologic Positioning I** **3**

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 synthesize the information and exhibit the knowledge for criteria, centering, and positioning of anatomy to produce a diagnostic image.

RAD 152 **Radiologic Positioning I Lab** **1**

This course introduces the student to the practical knowledge and application of positioning. The curriculum provides a comprehensive application of the principals of basic positions of the upper and lower extremities, bony system. It is designed to develop competency through laboratory practicum applications. Laboratory experiences utilizes phantom apparatuses and an energized lab to complement the classroom portion of the course.

RAD 153 **Radiologic Exposures & Principles I** **3**

This course is an introduction to the fundamental concepts and techniques relating to the production of x-rays. Emphasis is placed on the factors affecting an acceptable radiograph: contrast, receptor exposure, spatial resolution and all of the geometric properties associated with diagnostic imaging.

RAD 154 **Radiologic Exposures & Principles I Lab** **1**

This course is a laboratory experience utilizing model apparatus in an energized lab which allows the students to apply the concepts acquired in the classroom environment.

RAD 155 **Patient Care I** **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 157 **Radiologic Positioning II** **2**

This course is a continuation of RAD 151. The course is designed to develop competency in diagnostic procedures of the vertebral column, cranium, gastrointestinal system, biliary tract, and urinary system.
(*Prerequisites:* RAD 151,RAD 152, RAD 153, RAD 154, RAD 155)

RAD 158 Radiologic Positioning II Lab 1

This course is a continuation of RAD 151 and RAD 152. 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 151, RAD 152, RAD 153, RAD 154 RAD 155)

RAD 159 Radiologic Exposures & Principles II 3

A continuation of RAD 153, 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 fluoroscopy, mobile and digital radiology imaging systems and the factors that impact image acquisition, display, and retrieval in radiology.
(*Prerequisites:* RAD 153, RAD 154)

RAD 161 Patient Care II 2

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. The second half of the course will review today's health care and hospital environment, proper documentation, 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.
(*Prerequisite:* RAD 155)

RAD 163 Clinical Practicum I 2

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 15 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 151, RAD 152, RAD 153, RAD 154, RAD 155)

RAD 165 Clinical Practicum II 4

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:* RAD 157, RAD 158, RAD 159, RAD 161, RAD 163)

RAD 251 Clinical Practicum III 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 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:* RAD 165)

RAD 253 Radiation Biology & Protection 3

This course describes the effects of ionizing radiation on cells in the human body and how the effects of x-ray radiation affect biological tissue. Radiation protection, monitoring, and dose limits will be reviewed in this course with an emphasis on the ALARA concept. The course will also review and define the roles of the regulatory agencies and their involvement in radiation protection.
(*Prerequisites:* RAD 159, RAD 161)

RAD 255 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 critiquing radiographs to decide whether they are diagnostically acceptable and assure consistency in the production of quality images.
(*Prerequisites:* RAD 157, RAD 158, RAD 159)

RAD 259 **Clinical Practicum IV** **3**

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. (*Prerequisite:* RAD 251)

RAD 261 **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.
(*Prerequisites:* RAD 157, RAD 159)

RAD 263 **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, Ultrasound, and Radiation Oncology. The students will review, cross sectional anatomy, trauma radiology, myelograms, arthrograms and pediatric imaging.
(*Prerequisites:* BIO 109, BIO 110)

RAD 295 **Professional 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). (*Prerequisite:* RAD 251, RAD 253, RAD 255)
Must pass competency examination with a minimum score of 76%.)

Veterinary Technology

Course No.	Course Title	Credits

VET 151 **Intro. to Veterinary Technology / Clinical Management** **1**

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.

VET 153 **Clinical Applications for Large Animals** **2**

The focus of this course is to introduce students to large animals (horses, cattle, small ruminants). Students will learn about restraint and handling of large animals with an emphasis placed on safety. Course material will also include basic nursing care (medicating, physical exams, sample collections, as well as other routine procedures). Students will familiarize themselves with the large animal setting (farms/barns) in addition to tools and techniques found in large animal medicine.
(*Corequisite*: VET 154)

VET 154 **Clinical Applications for Large Animals Lab** **1**

The focus of this course is to introduce students to large animals (horses and cattle). Students will learn how to safely restrain and handle large animals. Course material will also include basic nursing care (medicating, physical exams, sample collections, etc). Students will familiarize themselves with the large animal setting (farms/barns) and various tools, equipment and techniques used in large animal medicine.
(*Corequisite*: VET 153)

VET 155 **Clinical Applications for Small Animals** **2**

This course will provide information on skills needed to work in a clinical setting. Emphasis will be on safety, handling & restraint techniques, general patient care and assessment, and medicating small animals. The course will also concentrate on husbandry and care of laboratory animals. Due to animal availability, students may be requested to bring in personal pets. ***Companion animal and Lab animal daily rotations are associated with this course requiring weekend and holiday animal rotations. Schedule will be provided.***
(*Corequisite*: VET 156)

VET 156 Clinical Applications for Small Animals Lab 1
This lab class allows students hands-on experience with various small animal species (*small rodents, rabbits, cats & dogs with availability*), including handling & restraint, administration of medication, and performing physical exams. Students may be requested to provide personal pets for task completion and assessment. Students must provide proof of prophylactic rabies inoculation and tetanus inoculation in order to participate in the lab. ***Companion animal and Lab animal daily rotations are associated with this course requiring weekend and holiday animal rotations. Schedule will be provided.***
(*Corequisite*: VET 155)

VET 157 Animal Anatomy and Physiology I 3
This course places an emphasis on cellular, microscopic, gross, and whole animal anatomy and physiology including structure and function of cells, tissues, organs, and organ systems. Emphasis will be placed on clinical applications and species differences. (*Corequisite*: VET 158)

VET 158 Animal Anatomy and Physiology Lab I 1
Topics covered in this course include anatomic directions, cells, cell type, morphology, histology, organ systems and the skeleton. In addition, the student will learn the proper use of a microscope. Personal protective equipment (PPE)/laboratory safety are covered. (*Corequisite*: VET 157)

VET 159 Animal Anatomy and Physiology II 3
This course studies cellular, microscopic, gross, and whole animal anatomy and physiology including structure and function of cells, tissues, organs, and organ systems. Emphasis will be placed on clinical applications and species differences. This course is a continuation of VET 147: Anatomy and Physiology I. (*Prerequisites*: VET 151, VET 157, VET 158; *Corequisite*: VET 160)

VET 160 Animal Anatomy and Physiology Lab II 1
This lab emphasizes the study of gastro-intestinal, nervous (including sensory organs), cardiovascular, respiratory, endocrine, urinary, and reproductive structure of the cat, dog, horse and ruminant.This course utilizes preserved feline, heart, and kidney specimens.(*Prerequisites*: VET 151, VET 157, VET 158; *Corequisite*: VET 159)

VET 161 **Parasitology & Immunology** **2**

This course will provide a foundation of microbiology, immunology, and parasitology for veterinary technicians. This course will cover characteristics of bacteria, fungi, viruses, and parasites, including emphasis on specific disease causing organisms, diagnosis, treatment, and prevention. In addition, this course will introduce some basic concepts of humoral and cellular immunity, emphasizing uses in laboratory diagnostics and vaccines.
(*Prerequisites*: VET 151, VET 157, VET 158; *Corequisite*: VET 162)

VET 162 **Parasitology & Immunology Lab** **1**

This course involves identification of parasites, bacteria, viruses, and fungi common to veterinary medicine. Students will practice sample collection and preparation for parasitological and microbiological examination. Sample collection, handling, preparation & precautions are stressed.
(*Prerequisites*: VET 151, VET 157, VET 158; *Corequisite*: VET 161)

VET 251 **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.
(*Prerequisites:* VET 151, VET 153, VET 155, VET 159, CHM 101, CHM 102, MAT 205)

VET 253 **Clinical Pathology** **2**

This course is designed to familiarize the student with diagnostic laboratory procedures commonly performed in the veterinary field. Discussions include clinical chemistry, veterinary hematology, urology and cytology. Sample collection and handling along with instrumentation and equipment maintenance is discussed.
(*Prerequisites*: VET 151, VET 159, VET 160; *Corequisite*: VET 254)

VET 254 **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.
(*Prerequisites*: VET 151, VET 153, VET 155, VET 159, VET 160; (*Corequisite*: VET 253)

VET 259 **Surgical Nursing I** **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. (*Prerequisites*: VET 153, VET 154, VET 155, VET 156, VET 159, VET 160)

VET 263 **Surgical Nursing II** **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.
(*Prerequisite*: VET 259)

VET 267 **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 151, VET 153, VET 154, VET 155, VET 156, VET 159, VET 160; (*Corequisite*: VET 268)

VET 268 **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 151, VET 153, VET 154, VET 155, VET 156, VET 159, VET 160 ; *Corequisite*: VET 267)

VET 269 **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 151, VET 153, VET 154, VET 155, VET 156, VET 159, VET 160)

VET 271 **Diseases and Zoonoses** **3**

This course is primarily the study of diseases (infectious, contagious, zoonotic, inflammatory, and organ system) and toxicology. Species studied include canine/feline, bovine/equine, porcine, small ruminant and select exotic species such as birds, ferrets, rabbits and reptiles. Topics such as the etiology, clinical signs, diagnostic tools, prevention techniques, treatments and public health issues for particular diseases are presented. A study of vaccine protocols for each species is also included where applicable. (*Prerequisites*: VET 151, VET 153, VET 154, VET 155, VET 156, VET 159, VET 160, VET 161, VET 162, VET 165, VET 251)

VET 275 **Clinical Rotation - Surgery** **3**

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.
(*Prerequisite:* Students must have successfully completed all first year courses)

VET 277 **Clinical Rotation - Medicine** **3**

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.
(*Prerequisite*: Students must have successfully completed all first year courses)

VET 280 **Surgical Kennel Rotation** **1**

This course focuses on preventive medicine and husbandry of canine and feline species. Topics covered include husbandry, applied anatomy, physical exams, applied parasitology, vaccine protocols, and preventive care. Emphasis is placed on individualizing patient care for surgical pre-op & post-op patients.
(*Prerequisites*: VET 151, VET 155, VET 156, VET 159)

VET 282 **Medical Kennel Rotation** **1**

This course focuses on preventive medicine and husbandry of canine and feline species. Topics covered include husbandry, applied anatomy, physical exams, applied parasitology, vaccine protocols, and preventive care. Emphasis is placed on individualizing patient care for medical and boarding patients.
(*Prerequisites*: VET 151, VET 155, VET 156, VET 159)

VET 295 **Professional Seminar** **1**

This 1 credit course is a capstone of the Veterinary Technology program. The course will focus on preparing the student to sit for the VTNE licensing exam buy concentrating on material from the nine (9) practice domains on the exam. The course will also provide information & skills necessary to participate in the internship/co-op requirement and CV writing. Students will be required to complete an online CPR certification. Students will be challenged utilizing case-based scenarios and complete multiple VTNE style practice exams in preparation for the VTNE. (*Prerequisite*: Must have successfully completed all 1st through 3rd semester courses. Must be taken the final semester prior to internships.)

VET 299 **Internship** **4**

This work experience is designed to expose the students to an actual clinical environment. Students go into a contracted facility after they have met all program requirements. The students are expected to adhere to all policies and regulations associated with their work-term facility. This work experience is intended to expound upon the students' knowledge, skill and aptitude as an entry-level technician. Students will be expected to purchase a minimum of 2 full sets of Johnson College scrubs. A uniform fitting is scheduled prior to the internship.
(*Prerequisites*: Must have successfully completed all VET 1st and 2nd year courses).

Welding Technology

Course No.	Course Title	Credits

WTC 151 **Shielded Metal Arc Welding** **2**

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, horizontal, vertical and overhead position, tank safety and welding safety will be taught. The course also covers basic metallurgy and how to identify weld problems and defects. This course will progress to the most advanced SMAW practices with concentration on vertical and overhead welding techniques conforming to the AWS structural welding code. Weld problems, corrections and specific techniques will be covered in this course.

WTC 152 **Shielded Metal Arc Welding Lab** **4**

This course is designed to allow students to apply the theory and techniques taught in WTC151 Shielded Metal Arc Welding. Student will practice basic safety, principles, practices, and applications of SMAW, basic welding and cutting techniques in various positions. Weld problems, corrections and specific techniques will also be practiced in this course.

WTC 153 **Gas Metal and Flux Cored Arc Welding** **1**

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.

WTC 154 **Gas Metal and Flux Cored Arc Welding Lab** **2**

This course is designed to allow students to apply the theory and techniques taught in WTC 153 Gas Metal and Flux Cored Arc Welding I. Student will practice basic safety, principles, practices, and applications of GMAW and FCAW in the flat and horizontal positions. Weld problems, corrections and specific techniques will also be practiced in this course.

WTC 155 **Gas Metal and Flux Cored Arc Welding** **1**

This course covers the most advanced GMAW/FCAW practices. The concentration will be on vertical and overhead welding techniques conforming to the AWS structural welding code. Weld problems, corrections and specific techniques will be covered in this course. (*Prerequisite:* WTC 151, WTC 152, WTC 153, WTC 154)

WTC 156 Gas Metal and Flux Cored Arc Welding Lab 2

This course is designed to allow students to apply the theory and techniques taught in WTC 155 Gas Metal and Flux Cored Arc Welding II. Student will practice basic safety, principles, practices, and applications of GMAW and FCAW in the vertical and overhead positions. Weld problems, corrections and specific techniques will also be practiced in this course. (*Prerequisite:* WTC 151, WTC 152, WTC 153, WTC 154)

WTC 157 Gas Tungsten Arc Welding 2

This course is designed to teach the student the basic safety, principles, practices, and applications of GTAW. This course covers GTAW welding theory including safety, tool usage, equipment set up and standard terms and definitions. Basic welding techniques using GTAW in the flat, horizontal, vertical and overhead positions will be taught. The course also covers related metallurgy, and how to identify weld problems and defects when using this process. (*Prerequisite:* WTC 151, WTC 152, WTC 153, WTC 154)

WTC 158 Gas Tungsten Arc Welding Lab 4

This course is designed to allow students to apply the theory and techniques taught in WTC 157 Gas Tungsten Arc Welding. Student will practice basic safety, principles, practices, and applications of GTAW in the flat, horizontal, vertical and overhead positions. Weld problems, corrections and specific techniques will also be practiced in this course. (*Prerequisite:* WTC 151, WTC 152, WTC 153, WTC 154)

GENERAL EDUCATION COURSES

Student Success Seminar

The Student Success Seminar course is designed to help first year students transition to the college environment, reflect on their personal and academic goals, develop a better understanding of the learning process, and acquire essential skills for success in college and beyond.

SSS 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 topics in health and wellness. The students will learn how to navigate the technology-learning tool Desire 2 Learn and become familiar with campus resources. This course may also be offered in a distance education format, when available.

Students may be awarded transfer credit for SSS 101 if they have been successfully awarded a minimum of 15 transfer credits from a post-secondary institution. Please refer to the Transcript Evaluation Procedure for full instructions regarding transfer credits.

Successful completion of SSS 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.

Art

Course No.	Course Title	Credits
ART 101	**Blueprint Reading for Welders**	**1**

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.

ART 103	**Introduction To Print Reading and Shop Drawings**	**1**

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, that are encountered when dealing with cabinetmaking and industrial prints. Sketching, materials, and finishes are also discussed. 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.

ART 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.

ART 110 **Contract Drawings** **3**

This course will introduce students to reading and understanding Contract Drawings for residential and commercial construction. 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.

ART 115 **Web Programming, Client Side Scripting** **2**

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.

ART 116 **Web Programming, Client Side Scripting Lab** **1**

The focus of this lab 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.

ART 125 **Art in Industry** **2**

This course introduces students of various divisions of study to 3D printing in an Art & Design setting. The students will be exposed to how the various industries represented at the college use 3D printing. Lecture topics will include adapting designs for the 3D printing process, creation of an iterative design, designing with texture, modification of primitive polyhedral shapes, and learning rules of 3D design. Students will be exposed to a variety of techniques, processes, materials, and technology commonly used in 3D printing. The students will create and print using a variety of 3D printers and learn post-processing techniques for how to achieve a desired finish on their projects.

ART 126 **Art in Industry Lab** **1**

This course is designed to accompany ART 125 Art in Industry. Students will create and print using a variety of 3D printers and learn post-processing techniques for how to achieve a desired finish on their projects.

ART 129 **Introduction to Woodcraft and Design** **2**

The course involves the theoretical and practical knowledge in designing and fabrication of wooden products. Topics will include the fundamentals of functional design, basic woodworking skills, and safe use of hand and power tools. This course will explore different wood materials and assembly methods while focusing on conservation of natural resources.

ART 130 **Introduction to Woodcraft and Design Lab** **1**

This lab course complements the lecture portion of ART 129 Introduction to Woodcraft and Design and will focus on the hands-on practice of design, basic woodworking skills, and safe use of hand and power tools.

Communication

Course No.	Course Title	Credits

COM 211 **Communication Theory** **3**

This course addresses specialized communication that helps readers and/or listeners respond to the challenges of the world of technology while being ethically and legally responsible. Class content focuses on understanding communication in the workplace, acquiring the tools/strategies needed for effective workplace communication, and creating effective workplace documents. Students complete a mock interview, journal assignments, and a PowerPoint presentation. (*Prerequisite:* ENG 101)

COM 212 **Public Speaking** **3**

Stressed in this course is the importance of oral communication for understanding, evaluating, and explaining various occupationally-related conditions. The course content includes theory and practice in the organization, preparation, delivery, and evaluation of extemporaneous discourse. Each student completes a mock interview and delivers a minimum of six different types of speeches.

ENG 101 **English Composition I** **3**

This course develops writing competency through the students' construction of essays and an academic research paper. Outlining, mechanics, syntax, and format are stressed in all writing assignments.

ENG 105 **Industry Communication** **3**

This course addresses the written and oral communication required every day in industry. Students learn proper email etiquette, order forms, work orders, and other workplace communication pieces. Students will also practice oral communications when dealing with customers, peers, superiors, and employees. The course will focus on audience, tone, clarity, and successful message transference.

Humanities

Course No.	Course Title	Credits

CSM 105 **Customer Service and Our World** **3**

This course explores the today's business landscape and the forces influencing culture and consumers including media, art, religion, geopolitics and literature. It provides a solid foundation for understanding customers and the philosophy of customer service from the perspective of several different industries. Students will engage in role play, case studies, and activities that will stress the importance of customer satisfaction. This course may also be offered in a distance education format, when available.

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

HMN 101 **Introduction to Humanities** **3**

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.

Internship

Course No.	Course Title	Credits
INT 299	**Internship**	**3**

A 200 hour internship at an approved site may be completed after a student has completed 30 credits, attended a resume workshop, and a cumulative GPA of 2.0. Students electing to complete an internship must satisfy the internship requirements of both Johnson College and the internship provider as a condition of graduation. 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 deny 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, career services, and internship site.

Mathematics

Course No.	Course Title	Credits
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.

MAT 101	**College Algebra I and Trigonometry**	**3**

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

MAT 105	**Math for Transportation Division**	**3**

This course provides a review of basic arithmetic concepts (addition, subtraction, multiplication, and division) as well as decimals, fraction, and formulas. Proper measurement and analyzing specifications are also covered. The course then moves into practical application of these math skills to real-world vehicle procedures, data, and specifications.

MAT 110 **Trigonometry** **3**

This course investigates angles triangles, trigonometric functions and equations, radian and degree measurements, circular functions, graphs, identities, vectors, complex numbers, polar coordinates, parametric equations, and applications. This course may also be offered in a distance education format, when available. (*Prerequisite*: MAT 101)

MAT 121 **Introduction to Statistics** **3**

This course is intended to introduce students to the basic concepts of data collection, data analysis and statistical inference. Topics include an 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.

MAT 123 **Math for Carpenters** **1**

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.

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.

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*: MAT 201)

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)

Science

Course No.	Course Title	Credits

BIO 105 **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.

BIO 107 **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.

BIO 108 **Human Anatomy & Physiology I Lab** **1**

This lab is designed to enhance and reinforce topics covered in BIO 107 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. (*Corequiste:* BIO 107)

BIO 109 **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. (*Prerequisite:* BIO 107+108 with grade of 80% or higher)

BIO 110 **Human Anatomy & Physiology II Lab** **1**

This lab is designed to enhance and reinforce topics covered in BIO 109 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. (*Prerequisite*: BIO 108; *Corequiste:* BIO 109, BIO 107+108 with grade of 80% or higher)

CHM 101 **Chemistry I** **3**

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).

CHM 102 **Chemistry I Lab** **1**

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). (*Corequisite:* CHM101)

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 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. (*Prerequisite*: MAT 101)

PHY 120 **Physical Science** **3**

This course is a survey course of the fundamental scientific principles of the chemistry, physics, and mechanics. It will cover chemical reactions of common substances, environmental and toxicological considerations for chemical disposal, basic chemical hygiene, strength and composition of materials, strength testing, and application of forces, friction, and aerodynamics. Lectures will be interspersed with demonstrations and hands-on mini labs to reinforce concepts. (*Prerequisite*: MAT 101)

SCI 150 **How It Works** **3**

This course will familiarize students with some basic principles of physics through their applications to selected devices such as radios, cell phones, the basic electronic components of computers, lasers and LEDs, radiation therapy in medicine, and even nuclear weapons. In learning the basic physics behind these modern inventions, you will develop a deeper understanding of how the physical world works and gain a new appreciation of everyday phenomena that are ordinarily taken for granted. This course is designed for non-science students with an interest in the natural world.

SCI 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.

SCI 160 **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 energy usage, energy conservation and sustainability concepts into practical construction methods and details used in drafting and design.

Social Science

Course No.	Course Title	Credits

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.

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

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

Technology

Course No.	Course Title	Credits

CPT 101 **Microcomputer I** **3**

This course is to provide a basic overview of microcomputer fundamentals and applications, including a study of word processing using Microsoft Word, spreadsheet applications using Microsoft Excel, presentations using PowerPoint, email using Outlook, as well as the integration of all the applications. The student is also exposed to basic computer operations, managing files, and a brief introduction to Sway, Edge, Office Mix, and OneNote. We will be using the Desire2Learn learning management software, therefore, reliable and high speed internet is required.

CPT 210 **Microcomputer II** **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. This course may also be offered in a distance education format, when available.
(*Prerequisite*: CPT 101)

Developmental Courses

Students placed in remedial courses based on college entrance exam are required to complete them before registering for college coursework. Students registered for these courses must complete the course with a minimum of a 2.67 GPA (B-) to continue in their academic program. Development course do not satisfy requirements for graduation.

Course No.	Course Title	Credits

ENG 099 **Basic College Writing** **3**

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.

MAT 099 **College Prep Algebra** **3**

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.

RSS 099 **College Reading / Study Skills** **3**

RSS 0100 is designed to acquaint students with the reading and study skills needed for success in college. The course provides a practical guide to the methods of study skills from the proper taking of lecture notes to developing one's own study style. Reading improvement will be attempted through improved techniques of reading and practice exercises that will use these techniques. Stressed throughout the course will be the need to develop a positive image of one's self as a learner. The course will combine both the theoretical and practical aspects of reading/study skills.

Continuing Education

Manufacturing

CNC Operator 510-hour Certificate
This 510-hour job training is designed for individuals looking to enter the high demand machining field. The program covers the theory and hands-on practice of conventional CNC lathes & mills. In addition to blueprint reading and the OSHA 10-hour Safety Training, emphasis on the use of metals and the stresses placed upon them will be taught
CNC Operator 285-hour Certificate
This 285-hour job training is designed for individuals looking to enter the high demand machining field. The program covers the theory and hands-on practice of conventional CNC lathes & mills. In addition to blueprint reading emphasis on the use of metals and the stresses placed upon the metals will be taught.

Welding

In partnership with Earlbeck Technologies, Johnson College is a welding training and testing facility.

Fundamentals of Welding (36 hours)
This course provides the foundation on which all of our courses are built. Students learn equipment set-up, basic techniques and safety for oxy-fuel welding and cutting; as well as Stick, TIG and MIG welding. In addition, the course discusses basic metallurgy, welding codes, welding inspection and welding symbols.
Intermediate Stick Welding (54 hours)
This course provides specific instruction in the Shielded Metal Arc (SMAW) welding process. Students learn how to perform fillet and groove welds on carbon steel using E6010 and E7018 electrodes in all positions. Student practice is geared toward structural welding code vertical and overhead tests. Passing these tests provides an all position, limited thickness, AWS D1.1 welder certification.
Intermediate TIG Welding (48 hours)
This course provides specific instruction in the Gas Tungsten Arc Welding (GTAW) process. Students will learn how to perform flat, horizontal, and vertical fillet and flat groove welds on carbon steel, stainless steel and aluminum. Student practice is geared toward thin material applications. Included are certification tests to AWS D17.1 Aerospace Code for Carbon Steel, Stainless Steel and Aluminum.
Intermediate MIG Welding (42 hours)

This course provides specific instruction in the Gas Metal Arc (GMAW) and Flux-Cored Arc (FCAW) welding processes. Students will learn how to perform fillet and groove welds in all positions. Student practice is geared toward sheet metal and structural steel welding code vertical and overhead tests. Passing the certification test provides an all-position, limited thickness, AWS D1.1 welder certification in FCAW and vertical D1.3 structural sheet metal code certification in GMAW.
Advanced Welding (48 hours)
This course provides additional instruction to graduates of our Fundamentals and any one Intermediate Welding program or previously certified all position plate welders. This course is geared toward open root pipe welding in all positions and includes a 6G position ASME Pressure Vessel Code test. Advanced classes are available for Stick, MIG or TIG welding.
Welding Basics (4 hours)
This course will provide the basic overview of the types and skills to MIG, TIG, and Stick welding.
Welding Symbols (12 hours)
This course is designed to provide necessary knowledge and skills to interpret welding symbols. Students will acquire an understanding of weld symbols, their use, and purpose, in accordance with American Welding Society A2.4- Standard Symbols for Welding, Brazing, and Non-Destructive Examination.

Automotive

Emissions Inspector
The Pennsylvania Department of Transportation has developed a training program for technicians to become certified in the Pennsylvania Vehicle Emissions Inspection and Maintenance (I/M) Program. Johnson College is approved by PennDOT to proctor the emissions testing. Please note: Only new inspectors and inspectors with expired certifications are required to attend a proctored exam.
PA State Auto Inspector
The course requirements include 12 classroom hours, a written test, and a two-hour tactile test scheduled independently with the instructor. This course covers vehicle body condition, working electrics, fluid leaks, break efficiencies, and more. All must be completed before receiving certification from PennDOT.

OSHA

OSHA 10/30
This training provides students with an understanding of general industry or construction industry workplace safety and health issues as they relate to OSHA standards, policies and procedures. This training is designed for managers, supervisors and employees. Upon successful completion of the training, attendees will receive an official OSHA General Industry or Construction Outreach Course Completion Card.
OSHA Powered Industrial Truck Operator (Forklift)
The forklift training course is designed to familiarize students with OSHA Powered Industrial Truck Operator Training Requirements (29CFR Standard 1910.178 and ASME B56.1), provide current training requirements under the newly adopted standards and to assist participants in becoming an authorized operator of forklifts through theory and tactile testing. 12 hours of instruction including pre-operational inspection, picking up, traveling and placing loads, parking procedures, refueling, and practical operation. Upon successful completion of the training, attendees will receive an official OSHA Powered Industrial Truck Operator Card.
OSHA HAZWOPER
The Hazardous Waste Operations and Emergency Response (HAZWOPER) training features key subjects such as protection against hazardous chemicals, elimination of hazardous chemicals, workplace safety, and OSHA regulations about chemical and waste management. Upon successful completion of the training, attendees will receive an official OSHA Outreach Course Completion Card(s).

Healthcare

Certified Nurse Aide Training (CNA)
The Certified Nursing Assistant program is a 120-hour programthat is completed five-week intervals. The program follows the Pennsylvania Department of Edcuation curriculum. The course covers physical care skills, psychosocial skills, and the role of a Nurse Aide. At the completion of the program students are eligible for the National Nurse Aide Assessment Program (NNAAP) testing.
MRI/CT Scan
The Magnetic Resonance Imaging (MRI) and Computed Tomography (CT) Technologist Certificate Programs are designed to provide registered radiological technologists with the necessary knowledge of MRI and CT along with the related clinical competencies to be eligible to sit for the national

certification examination offered by the American Registry of Radiologic Technologists (ARRT). This program consists of 9 months of online didactic training and 300 hours (approximately 6 months) of clinical training.

Computer Design

Computer Aid Design (CAD)
This course is an introductory course into Computer-Assisted Drafting. CAD software is used to increase the productivity of the designer, improve the quality of design, improve communications through documentation, and to create a database for manufacturing. This course explains basic CAD commands required to produce working drawings. Students will work with creating 2D objects, text usage, dimensioning, layer management, model/paper space, and plotting.
Revit
This course is an introductory course into Revit Software. The software is used by architects, landscape architects, structural engineers, mechanical, electrical, and plumbing engineers, designers and contractors. This course explains the basic program interface, creating/manipulating levels, model creation, working with walls/roofs/windows, dimensions, and building sections.

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May 2019 - April 2020

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M.B.A., Goldey-Beacom College
B.A., Goldey-Beacom College

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B.A., Wilkes University

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M.Ed., Concordia University
B.S., Misericordia University

Faculty

A.S. Degree

Computer Information Technology
Department Chairperson

Joseph J. Polinsky
A.S., Pennsylvania State University

Computer Information Technology
Instructor

Matthew P. Cirba, Ph.D. (c)
Ph.D., Northcentral University
M.S., Wilkes University
B.S., Keystone College
A.S., Johnson College

Physical Therapist Assistant
Program Director

Heather DeFazio, DPT
DPT, Arcadia University
M.S., University of Scranton
B.S., University of Scranton

Academic Coordinator of Clinical Education
Physical Therapist Assistant

Nicole Fabricatore, PTA
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A.S., Keystone College

Radiologic Technology
Program Director

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 Coordinator / Instructor

Jaclyn Salierno, R.T. (R) (MR)
B.S., Misericordia University
American Registry of Radiologic Technologists

Radiologic Technology
Clinical Instructor

Brandon Castellano, R.T. (R)
A.S., Johnson College
American Registry of Radiologic Technologists

Veterinary Technology
Program Director

Kimberly A. Konopka, CVT
B.S., Wilkes University
A.S., Johnson College

Veterinarian

TBD

Veterinary Instructor — **Jolynn Lawler, CVT**
A.S., Johnson College

Veterinary Instructor — **Amanda Melnyk, CVT**
A.S., Johnson College

A.A.S. Degree

Advanced Manufacturing Technology — **Cole Hastings Goldstein**
Department Chairperson
M.F.A., Maine College of Art
B.F.A., Kutztown University

Architectural Drafting & Design Technology — **John F. DeAngelis**
Department Chairperson
B.S., Temple University
A.S., Pennsylvania State University

Automotive Technology — **Mark Kozemko**
Department Chairperson
A.S.T., Johnson College
ASE Cert. Master Auto. Tech.

Automotive Technology — **James Williams**
Instructor
A.A.S., Johnson College

Biomedical Equipment Technology — **Douglas D. Hampton**
Department Chairperson
A.S., Community College of the Finger Lakes
A.A.S., Auburn Community College

Carpentry & Cabinetmaking Technology — **Todd Campbell**
Department Chairperson
A.S.T., Johnson College
Licensed General Contractor

Diesel Technology — **Willard Hobbs**
Program Director
A.A.S., Johnson College

Diesel Technology — **Dominic Talarico**
Instructor
Diesel Equipment Technology Certified, Baron Institute of Technology

Electrical Construction & Maintenance Technology — **Cullen McKenna**
Associate Program Director
A.A.S., Johnson College

Electrical Construction & Maintenance Technology **Travis Zarnoff**
Instructor A.A.S., Johnson College

Electronic Engineering Technology **Richard P. Fornes**
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A.S., Broome Community College
A.S.T., Johnson College

Heating Ventilation & Air-Conditioning Technology **Walter Wood**
Program Director A.A.S., Johnson College

Heating Ventilation & Air-Conditioning Technology **Michael Visbisky**
Instructor HVAC-R Certified

Certificate

Welding Program Director **Anthony Delucca**
Certified Welding Instructor / Educator (CWI/CWE)
Certificate, Welder Training and Testing Institute
Motorcycle Fabrication Certificate
AWS D1.1 Certified Welder

Welding Instructor **Landon York**
Certified Welder, Johnson College

Faculty

General Education **Colleen Beavers**
Program Director M.S., Wilkes University
B.A., East Stroudsburg University

English Instructor **Heather Bonker**
M.A., College of Charleston
B.A., Saint Vincent College
Post-Masters Certificate in Education, Capella University

Technical Instructor **James Burden**
B.S., Northern Arizona University

Staff

Academic Advisor — **Jeffrey Bauman**
M.A., Messiah College
B.S., Wilkes University

Accounting Analyst — **Kristin Masci**
M.B.A., University of Scranton
B.S., University of Scranton

Accounts Payable Clerk (p/t) — **Kathy K. Williams**
B.S., York College

Associate Director of Academics — **Aubree Armezzani**
B.A., Wilkes University

Assistant Director of Enrollment — **Alex Ellsworth**
B.S., University of Scranton

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B.S., Keystone College

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Communications Manager — **Melissa Carestia**
B.A., Keystone College

Coordinator of Continuing Education — **Felicia M. Ennes**
B.A., Marywood University

Counselor / Manager of Disability Services — **Emily G. Holmes, CRC**
M.S., University of Scranton
B.A., St. Joseph's University

Director of Development — **Michele Newberry**
B.A., Wagner College

Director of Facilities — **Joseph Musheno**

B.S., Temple University
A.S.T., Johnson College

Director of Financial Aid — **Jessica L. Farrell**
B.S., Keystone College

Director of Information Technology — **Gerald J. Marsh**
Microsoft Certified Professional (MCP)

Director of Institutional Effectiveness — **Laura Little**
M.B.A., Cameron University
B.A., Binghamton University

Director of Student Engagement — **Nolan Renz**
M.P.A., Marywood University
B.S., University of Scranton

Financial Aid Advisor — **Theresa Watson**
B.S., Marywood University

Grants Manager — **Karen Baker**
B.A., Penn State University

Human Resources Coordinator — **Lori A. Barahona**
A.S., Luzerne County Community College

Institutional Effectiveness Analyst (p/t) — **Shirley Helbing**
M.P.A., University of Phoenix
B.A., University of Scranton

Manager of Career Services — **Dana Healey**
B.A., Misericordia University
A.A., Lackawanna College

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M.S., Marywood University
B.S., Marywood University

Recruitment Advisor — **John R. Lawless**
B.A., Marywood University

Recruitment Advisor — **Alison Lisk**
B.S., East Stroudsburg University

Senior Recruitment Advisor — **Angela M. Semkew**
M.S., Slippery Rock University
B.S., Slippery Rock University

Registrar Office Coordinator — **Lynn M. Krushinski**

Registrar Office Coordinator — **Anisa Krymowski**
B.A., Penn State University

Resource Officer — **Ashley Cease Hassenbein**
M.A., Marywood University
B.A., Shippensburg University

Senior Director of Student Affairs — **Andrew V. Zwanch**
B.S., State University of New York, Oswego
A.S.T., Johnson College

Senior Maintenance Mechanic — **Mark Chappell**
A.S.T., Johnson College

Staff Accountant — **Ashley Hanicak**
B.S., Keystone College

Student Care Coordinator — **Jessenia Zamora**
B.A., Long Island University

Technology Support Specialist — **Michael Zangardi**
A.S., Johnson College