

North Central Kansas Technical College

2012-2013 College Catalog



Hands-On Skills.High-Tech Careers.

Mission Statement

North Central Kansas Technical College (NCKTC), an institution of higher education, provides life-long educational opportunities to a diverse population leading to productive lives for the benefit of a global society. We are dedicated to providing a curriculum in a supportive learning environment designed to promote a personalized, educational experience which will enhance an individual's opportunity to develop to his or her full potential.

Vision Statement

North Central Kansas Technical College is committed to being a leader in innovative workforce development and a world class learning resource for the ever-changing needs of business and industry.

North Central Kansas Technical College

3033 US 24 Hwy
Beloit, KS 67420
800-658-4655
785-738-2276
785-738-2903 FAX

2205 Wheatland Ave
Hays, KS 67601
888-567-4297
785-625-2437
785-623-6152 FAX

www.ncktc.edu

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This catalog is for informational purposes only and does not constitute a contract. Every effort was made to ensure that all information is accurate. North Central Kansas Technical College reserves the right to change the catalog without notice. The college has authority to cancel classes and change class times, dates and instructors. Classes may be added or combined. Information about changes is available from college counselors and advisors.

ACADEMIC CALENDAR
2012-2013

August 20, 2012 Classes Begin
September 3, 2012..... Labor Day/College Closed
November 12, 2012..... Veteran's Day - No Classes/College Closed
November 21-23, 2012.....Fall Break/College Closed
December 14, 2012..... End of Fall Semester
January 2-4, 2013 College Open/No Classes
January 7, 2013 Spring Semester Begins
March 18-22, 2013 Spring Break/College Closed
March 29, 2013 Good Friday/College Closed
May 6-10, 2013 Finals Week
May 10, 2013 Graduation Beloit
May 11, 2013 Graduation Hays

EDUCATIONAL PURPOSES

North Central Kansas Technical College (NCKTC) provides educational programs and services to all people, regardless of sex, race, color, national origin, or handicap. The College does so for the following purposes:

Education in the Technical Sciences

NCKTC offers an Associate of Applied Science degree, certificate and other vocational programs designed to provide:

- Education for entry-level employment in occupations, which have a high degree of placement potential.
- Education for individuals already employed.

Education for Economic Development

NCKTC offers customized training to businesses, industries, governmental agencies and professional organizations including registered apprenticeship through the Kansas Department of Commerce to provide:

- Education for training, retraining or cross-training which upgrades the skills and knowledge of the workforce.
- Technical assistance.

Education in the Liberal Arts and Sciences

NCKTC offers an Associate of Applied Science degree program designed to provide:

- Education that broadens knowledge, skills and experience.
- Education that serves the needs of the community and state.

Education for Community Service

NCKTC offers self-enrichment and vocational courses as well as activities to provide:

- Education for meeting individual personal needs.
- Education for fulfilling the individual's roles as citizen and worker.
- Cultural enrichment through curricular and extracurricular activities.
- College facilities and services for educational, social and cultural purposes.

Education for Secondary Students

NCKTC works with area Unified School Districts to provide educational opportunities for high school students to enhance and facilitate:

- Student potential to benefit from post-secondary education.
- Opportunities for attaining employment.

GENERAL INFORMATION

Campus Locations:

North Central Kansas Technical College has campuses located in Beloit and Hays, Kansas. The college provides instruction in general and technical education. Online courses extend opportunities to those outside the immediate region.

History of the College:

In 1963, Kansas legislation was passed, which provided vocational-technical education. Senate Bill 438, in conjunction with the National Education Act (SB 4955), approved the establishment of sixteen vocational-technical schools and nineteen community colleges in the state.

Classes began in the fall of 1964 with five programs being offered. Six instructors and one placement officer/counselor made up the staff utilizing rented facilities in the community; North Central Kansas Area Vocational Technical School became a reality.

In 1975, a campus was established at Hays with nursing as its first program. In 1992, the Business and Occupations Center was dedicated to the memory of its benefactors, Leo and Albina Dreiling.

On July 1, 1996, North Central Kansas Area Vocational Technical School ceased to exist. In its place, North Central Kansas Technical College (NCKTC) was created. The same locations, the same quality education, but a new name with new directions was designed to enhance the educational opportunities for the region.

Accreditation:

North Central Kansas Technical College is accredited by:

Higher Learning Commission of the
North Central Association of Colleges and Schools
30 LaSalle Street, Suite 2400
Chicago, IL 60602
(312) 263-0456 or 1-800-621-7440

Kansas Board of Regents
1000 SW Jackson St., Suite 250
Topeka, KS 66612
(785) 296-3421

National Automotive Technicians Education Foundation
101 Blue Seal Drive, Suite 101, Leesburg, VA 20175
(703) 669-6650

National Center for Construction Education and Research
13614 Progress Boulevard, Alachua, FL 32615
386-518-6500 or 1-888-622-3720

National League for Nursing for Accrediting Commission, Inc.
61 Broadway, New York, NY 10006
1-800-669-1656

Kansas State Board of Nursing
900 SW Jackson St., Suite 1051, Topeka, KS 66612
(785) 296-4929

American Society of Health Systems Pharmacists
7272 Wisconsin Ave, Bethesda, MD 20814
(301) 664-8645

ACADEMIC REGULATIONS

North Central Kansas Technical College is a two year institution offering the student an opportunity to pursue a one-year certificate or an Associate of Applied Science degree.

Graduation Requirements:

Students are eligible for graduation upon successful completion of the following requirements:

1. Complete all required coursework according to individual program objectives. Students receiving a failing grade "F" in any coursework will be required to retake the course. Incomplete coursework "I" will not count towards graduation requirements.
2. A minimum cumulative grade point average of 2.0.
3. High school diploma, its equivalent, or a GED.
4. No outstanding bills owed to the College.
5. Complete a grade/degree check in the Registrar's Office at the beginning of their final semester to ensure all graduation requirements will be met.

Eligibility for Participation in Graduation:

To be eligible to participate in NCKTC's graduation ceremony, the student must meet all graduation requirements. An exception may be granted if a student is within 6 credit hours of completing their coursework for an AAS degree or within 3 credit hours of completing their coursework for a certificate. Students must apply to the Dean of Instructional Services for the exception using a Graduation Plan/Exception form.

Students who have not completed all requirements for graduation, but are within the acceptable limits identified above, must submit a Graduation Plan/Exception form to the Dean of Instructional Services stating their plan for completing their graduation requirements. A copy of the Graduation Plan/Exception form is available in the office of the Registrar and must be submitted by May 1st.

Students who do not complete all requirements for graduation and do not fall within 6 credit hours for an AAS degree or 3 credit hours for a certificate WILL NOT be allowed to participate in NCKTC's graduation ceremony. Appeals may be considered for special circumstances and should be made to the Dean of Instructional Services.

One-Year Certificate Programs:

- Bricklaying
- Business Technology
- Business Management
- Carpentry/Cabinetmaking
- Culinary Arts
- Heavy Equipment Operation
- Information Technology
- Pharmacy Technician
- Plumbing, Heating & Air Conditioning
- Practical Nursing
- Residential Electricity
- Welding

Associate of Applied Science Degree:

- Agricultural Equipment Technology
- Automotive Collision Technology
- Automotive Technology
- Building Construction Technology
- Diesel Technology
- Electrical Technology
- Electronic Engineering Technology
- General Business
- Information Technology
- Nursing
- Pharmacy Technician
- Technical Studies
- Telecommunications and Network Technology
- Welding Engineering Technology/Technician

General Education Philosophy:

North Central Kansas Technical College's philosophy of general education includes the belief that there exists a core of valuable learning experiences common to all students independent of their occupation or profession.

The college offers learning experiences in computer applications, mathematics, behavioral sciences, physical sciences and communications. These experiences provide students the educational background for effective social interactions, progression in the work force and enrollment into other institutions of higher education.

Withdrawal:

The last official day a student can withdraw from a class without receiving a grade is two weeks after mid-term each semester. A grade of "W" (withdrawn) will appear on the transcript for students withdrawing prior to this date. Withdrawal forms are available in the Registrar's Office.

Withdrawals are not effective until completed forms are on file in the Registrar's Office.

Add Procedure:

A student can add a General Education course during the first two weeks of each semester. No course may be added after this point. Forms are available in the Registrar's Office.

Academic Evaluation Criteria: (all students)

The academic progress of the student is evaluated as follows:

- Excellent A
- Good B
- Average..... C
- Unsatisfactory D
- Passing P
- Failing F
- Incomplete I
- Withdraw W

NOTE: The grade of Incomplete will be utilized only when extenuating circumstances exist; thus, justifying additional time for the student to establish a grade for the semester. If an Incomplete grade is given, the Incomplete must be changed to a letter grade within two weeks after the semester ends.

Student Academic Achievement:

Assessment of student academic achievement is an integral part in institutions of higher education. NCKTC has an extensive program of assessment focused on student learning to verify that both knowledge and skills have been attained.

Testing Policy:

Students are required to provide an entrance test score for proper placement in General Education course work. Qualified tests include ACT or COMPASS. Students who have not completed an entrance test prior to admission can complete the COMPASS test at the college. Testing arrangements can be made either at the Beloit or Hays campus. Test scores should be submitted to the Registrar's Office.

Students with scores two years or older and/or students who have not taken a Compass test at NCKTC will be allowed to take the Compass test one time at no charge. Students, who have previously taken a Compass test at NCKTC and wish to retest to try to achieve a higher placement score, will be charged a testing fee of \$25.00. Students asked to take a Compass E-Write exam to help determine proper placement will not be charged.

The following scores will be used to indicate placement in writing courses at NCKTC for all college sites and online delivery:

ACT 20 (English)
ASSET 40
Compass Writing 50
Compass Reading 65

Students with ACT scores of 17, 18 or 19 will be given the E-write exam from Compass. Students with Compass scores of 45-50 will also be given the E-write exam to determine proper placement. An E-write score of 6 or better would indicate that the student be placed into Composition I.

The following scores will be used to indicate placement in Math courses at NCKTC for all college sites and online delivery:

ASSET – Numerical Skills portion
Score of 32 or below = Placement in Basic College Math or Business Math Extended
Score of 33 or above = Placement in Business Math or Basic Algebra

ASSET – Elementary Algebra portion
Score of 37 or below = Placement in Business Math or Basic Algebra
Score of 38 or above = Placement in Intermediate Algebra

ACT –
Math Score of 17 or below = Placement in Business Math or Basic Algebra
Math Score of 18 or above = Placement in Intermediate Algebra
Math Score of 22 or above = Placement in College Algebra

COMPASS – Pre-Algebra portion
Score of 30 or below = Placement in Basic College Math or Business Math Extended
Score of 31 or above = Placement in Business Math or Basic Algebra

COMPASS – Algebra portion
Score of 27 or below = Placement in Business Math or Basic Algebra
Score of 28 or above = Placement in Intermediate Algebra

Developmental Courses:

Prerequisite requirements must be met in order to enroll in Intermediate Algebra and English Composition I. Students may be asked to take an additional test in order to ensure proper placement.

ADMISSION REQUIREMENTS

General Requirements:

Applications should be made early. Students are accepted on a space-available basis. For employment purposes, students should be 18 years of age upon completion of the program. Interested students should complete an application form, which may be obtained in writing from:

North Central Kansas Technical College PO Box 507, Beloit, KS 67420 or call 1-800-658-4655	North Central Kansas Technical College - Hays Campus 2205 Wheatland Ave, Hays, KS 67601 or call 1-888-567-4297
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or E-mail: webmaster@ncktc.edu

Practical Nursing:

- The applicant may request application materials from North Central Kansas Technical College.
- The applicant shall complete the application and reference forms and return to:
North Central Kansas Technical College, PO Box 507, Beloit, KS 67420
- Applications will be accepted from September 1st to January 31st for those anticipating admission the following Fall semester.
- The applicant shall have an application on file the year that the class is being selected.
- The applicant shall be a high school graduate or have a GED certificate.
- The applicant shall submit official transcripts for all secondary and post-secondary course work taken in order to be considered.
- The first year applicant must be a Certified Nursing Assistant (CNA) before they can be accepted into the program. Admission points will be awarded to those applicants who are Certified Medication Aides (CMA).
- The first year applicant shall take the entrance examination for the purpose of placement in the program. Entrance testing will occur during the months of September through January in Beloit by appointment.
- The applicant shall have a C or better in all required general education courses prior to the beginning of the academic year.
- The accepted applicant must be certified in CPR by the American Heart Association or the American Red Cross at the healthcare provider level before entering the program. The certification must last through graduation.
- All required information shall be in the official file maintained by the Registrar before the application will be reviewed. **Responsibility for completing the required information rests entirely with the applicant.**
- The class will be selected by choosing the highest-ranking applicants. Alternates will be chosen to fill the remaining places, as positions become available.
- Class selection will be finalized and those selected will be notified in February for Fall Semester.
- Following the class selection, the application process (meaning new application) will begin again. An Application for Admission must be resubmitted and transcripts must be updated if any further course work has been attempted.

Criminal conviction may jeopardize eligibility of licensure. (Any previous involvement with the judicial system may negatively impact clinical experiences or the NCLEX PN process)

Associate Degree Nursing:

- Request application materials from either campus of North Central Kansas Technical College.
- Complete the application and return to:
North Central Kansas Technical College, 2205 Wheatland Ave., Hays, KS 67601 Attn: Director of Nursing
- First year applications will be accepted from September 1st to January 31st for those anticipating admission the following Fall semester.
- Second year applications will be accepted from September 1st to March 31st for those anticipating admission the following Fall semester.
- The applicant shall have an application on file the year that the class is being selected.
- The applicant shall be a high school graduate or have a GED certificate upon entering into the program.
- The applicant shall submit official transcripts for all secondary and post-secondary course work taken in order to be considered.
- The first year applicant must be an active Certified Nursing Assistant (CNA) in Kansas before they can be accepted into the program. Admission points will be awarded to those applicants who are Certified Medication Aides (CMA).
- The first year applicant shall take the entrance examination for the purpose of placement in the program. Entrance testing will occur during the months of September through January in Hays by appointment.
- All applicants shall have a C or better in previously completed general education and other plan of study (non-nursing) courses.

- The accepted applicant must be certified in CPR by the American Heart Association or the American Red Cross at the healthcare provider level before entering the program. The certification must last through graduation.
- All required information shall be in the official file maintained by the Director of Nursing before the application will be reviewed. **Responsibility for completing the required information rests entirely with the applicant.**
- The class will be selected by choosing the highest-ranking applicants. Alternates will be chosen to fill the remaining places, as positions become available.
- Class selection will be finalized and those selected will be notified in February for Fall Semester.
- Following the class selection, the application process (meaning new application) will begin again. An Application for Admission must be resubmitted and transcripts must be updated if any further course work has been attempted.
- There are specific abilities that are critical to the nursing student's success. Students must demonstrate the ability to meet technical standards, with or without reasonable accommodations.

Criminal conviction may jeopardize eligibility of licensure. (Any previous involvement with the judicial system may negatively impact clinical experiences for the NCLEX PN process).

- Current first year students seeking a position at the Associate degree level shall submit a signed letter of intent to the nursing program coordinator by March 31st. The grade requirement for nursing courses is an 87% or higher. Those who do not meet this standard will be required to achieve a satisfactory score on a standardized examination after a one-year time lapse during which successful practice as a practical nurse has been established.
- For applicants who have graduated from a practical nursing program in Kansas, guidelines of the Council for Nursing Articulation in Kansas will be followed. They are as follows:
 - 0-5 years after graduation
 - No validation of nursing credit is required.
 - No work experience is required.
 - 6-10 years after graduation
 - No validation of nursing credit is required if, during the last three years the applicant has worked as an LPN for a minimum of 1,000 hours.
 - Validation, if necessary, will be achieved by receiving a satisfactory score on a standardized pre-entrance examination.
 - More than 10 years after graduation
 - Validation of nursing credits is required through the LPN Assessment Test.
 - A minimum of 1,000 hours of work experience as an LPN in the last three years is required.
- For those applicants who have graduated from an out-of-state practical nursing program, nursing credits will be evaluated individually by the nursing program director.
- Associate Degree (second year) applicants shall provide evidence of completion of a course of study equivalent to the first year of NCKTC program.
- All required information shall be in the official file maintained by the Director of Nursing before the application will be reviewed. **Responsibility for completing the required information rests entirely with the applicant.**
- The class will be selected by choosing the highest-ranking applicants. Alternates will be chosen to fill the remaining places, as positions become available.
- Class selection will be finalized and those selected will be notified in April for Fall Semester.
- Following the class selection, the applications (meaning new application) will begin again. An updated Application for Admission must be resubmitted and transcripts must be updated if any further course work has been attempted
- There are specific abilities that are critical to the nursing student's success. Students must demonstrate the ability to meet technical standards, with or without reasonable accommodations.

Criminal conviction may jeopardize eligibility of licensure. (Any previous involvement with the judicial system may negatively impact clinical experiences or the NCLEX RN process).

Enrollment:

Admittance to NCKTC is on a space-available basis. Early application is encouraged.

Admission is accomplished by the following:

- Completion of Application for Admission with a non-refundable \$50 application fee.
- Provide the Registrar with:
 - a. High school transcript(s) or
 - b. G.E.D.
 - c. Official college transcripts
 - d. Test Scores (ACT and COMPASS)

Program Transfer:

Students wishing to transfer to a different program may do so only within the first week (5 academic days) of the first semester.

Tuition and Fees:

Please contact the Administration Office for a current tuition cost sheet and fee schedule.

Beloit Campus - Student fees include: student union, intramural activities, yearbook, wellness center and student ID.

Hays Campus - Student fees include: yearbook, student ID and student activities. Students also have the option to participate in the Gateway Plan, for full details please refer to www.ncktc.edu/gateway.

Graduation Fees - Students eligible for graduation will be assessed a graduation fee.

Tools:

Students enrolled in the following programs are required to purchase tools:

Agricultural Equipment Technology
Automotive Collision Technology
Automotive Technology
Carpentry-Cabinetmaking
Diesel Technology
Electrical Technology

Electronic Engineering Technology
Plumbing, Heating & Air Conditioning
Residential Electricity
Telecommunications & Network Technology
Welding

Tools may be purchased through approved vendors. Questions regarding the use of tools other than those provided by approved vendors should be directed to the individual department.

Students in Secondary Automotive Technology at the Hays campus pay a rental fee and are not required to purchase tools.

Books:

Books and supplies are available directly from the college and are distributed to students through their departments.

STUDENT SERVICES

Financial Aid

Federal Student Aid

NCKTC offers U.S. Department of Education Title IV funding to students attending the college. Eligibility for the federal student aid program is determined by completion of the Free Application for Federal Student Aid (FAFSA).

Students must meet the following requirements:

- Be a U.S. citizen or eligible non-citizen with a valid Social Security number.
- Meet one of the educational requirements listed below.
 - Have a High School diploma
 - Have a GED
 - Pass an Ability-to-Benefit (ATB) test
 - Complete a state approved home-school program
- Enroll in a program that leads to a certificate or AAS degree
- Register with Selective Service if a male 18-25 years of age
- Maintain satisfactory academic progress
- Resolve any drug conviction

Students demonstrating financial need may qualify for the following types of federal aid:

- Pell Grant
- Federal Supplemental Grant
- Subsidized Stafford Loan
- Federal Work Study

NCKTC participates in the William D. Ford Direct Loan Program providing federal guaranteed loans to eligible students enrolled at the college. Students with financial need qualify for the Subsidized Stafford Loan which accrues no interest on the principle balance while the student is attending college and for a 6 month grace period thereafter.

Other loans available through the federal student aid program regardless of need include:

- Unsubsidized Stafford Loan
- Parent Loan for Undergraduate Student (PLUS)

To maintain eligibility for Title IV federal student aid, the student must demonstrate satisfactory academic progress (SAP) in their educational endeavor. Students must maintain a cumulative grade point average of 2.0 on a 4.0 scale

and must complete the program within 150% of the published credit hours required for graduation. Failure to maintain either standard will cause the student to lose eligibility for Title IV funding until the student is compliant. Students not meeting satisfactory academic progress based on grades may enter a warning or a probationary period. Any student who has been placed on probation may file an appeal to the financial aid office to have their situation reviewed for possible reinstatement of federal funds.

Kansas State Aid

The Kansas Board of Regents offers students attending technical programs in the state the opportunity for a Vocational Educational Scholarship. Eligible candidates are required to submit an application form, pay a \$12 application fee and complete the Vocational Education Scholarship test administered in November or March preceding enrollment.

Nursing students have the opportunity to apply for the Kansas Board of Regents Nursing Service Scholarship. Students enter into an agreement with a sponsoring agency to complete a year of employment with the agency upon graduation.

Scholarships

NCKTC processes scholarships from various donors throughout the region. Many of these scholarship opportunities originate from the student's home town area. The college publishes a pamphlet listing scholarship opportunities and the application process involved.

Agency Assistance

Students may qualify for assistance from various agencies to help with college expenses. Contact the appropriate agency to determine eligibility and application procedures.

- Workforce Investment Act (WIA)
- Vocational Rehabilitation
- SER Corporation
- Veterans Administration

Steps involved in the Federal Student Aid process:

- Complete FAFSA (Free Application for Federal Student Aid); apply online at www.fafsa.ed.gov
Can be completed as soon as income tax information is available, but not before January 1 of enrollment year.
Students selected for verification must submit documents requested by NCKTC financial aid office to validate entries on the submitted FAFSA.
Submit documents within two weeks of mailed request.
- An Award Letter is sent from the Financial Aid Office indicating the federal aid the student is eligible to receive.
Requirements to receive the Award Letter:
 - a. Enrollment application
 - b. Successful completion of FAFSAIf you do not receive an Award Letter within 30 days after submission of FAFSA, contact the Financial Aid Office at the college.
- The college will solicit eligible federal grant funds, Stafford loans and PLUS loans based on student eligibility and accepted amounts indicated on the Award Letter.
- Students seeking Stafford subsidized or unsubsidized loans must complete a master promissory note with Direct Loans.
- A parent seeking a PLUS (Parent Loan for Undergraduate Student) loan must complete a PLUS master promissory note with Direct Loans.
- The master promissory note authorizes the college to secure funds in your name through the Direct Loan program.
- Before students receive Stafford loan funds for the first time from NCKTC, they must complete Loan Entrance Counseling.
Students and Parents seeking education loans can complete application, master promissory notes and entrance loan counseling online at <https://studentloans.gov/myDirectLoan/index.action>

NOTE:

Funds are not disbursed until 30 days after classes start. In order to receive subsequent disbursements of federal student aid, students must maintain enrollment and demonstrate satisfactory academic achievement (GPA 2.0 or better). Fees are collected on a semester basis, and financial aid disbursements are also made on a semester basis.

Veterans Requirements

- a) Must inform Registrar and show certificate of eligibility.
- b) Must maintain a 2.0 grade point average to continue receiving benefits.
- c) Benefits for students enrolled in the Associate of Applied Science Degree Programs will continue through the Internship portion of the program.
- d) Benefits for students NOT enrolled in the Associate of Applied Science Degree programs will terminate at the time of the Internship.

Veterans (Dependents)

Waiver of all tuition or fees is provided for any dependent of a prisoner-of-war, a person missing-in-action or a dependent of a person who died as a result of a service connected disability suffered during the Vietnam War.

Standard of Progress

The current policy that applies to Financial Aid students for satisfactory progress applies to all students, including VA eligible recipients.

Whenever a grade of "F" is received, the student is counseled by the instructor in terms of satisfactory progress toward completion of the graduation requirements.

The student's progress is monitored each term based on grades received that term and the standard necessary to make satisfactory progress with a 2.0 grade point average.

A student must graduate with at least an accumulative 2.0 grade-point average and passing grades in all general education courses.

The instructor's review of an unsatisfactory grade at the end of the term identifies the area where the student is unsuccessful and allows the instructor to work with the student in developing a plan to improve.

Internship Guidelines:

Students must complete graduation requirements excluding the remaining credit hours for Internship: They are as follows:

- Complete all required coursework according to individual program objectives. Students receiving a failing grade "F" in any coursework will be required to retake the course. Incomplete coursework "I" will not count towards graduation requirements.
- A minimum cumulative grade point average of 2.0.
- High school diploma, its equivalent, or a GED.
- No outstanding bills owed to the College.
- Complete a grade/degree check in the Registrar's Office at the beginning of their final semester to ensure all graduation requirements will be met.

The Resource Center (Beloit Campus):

Students on the Beloit Campus are encouraged to use the resources available for research, reference and relaxation. The Resource Center houses the library, a computer lab and tutoring services.

Available library resources include:

- A computerized catalog detailing the more than 2,000 titles on our shelves.
- Access to multiple online databases for research and reference.
- Over 80 magazines and regional newspapers in print.
- Participation in the Kansas Interlibrary Loan System, which allows students to borrow materials from other Kansas libraries.
- Free photocopy services for educational materials.

The Computer Lab offers:

- Internet-accessible computer workstations.
- Access to web-based e-mail communication.
- Microsoft Office applications including Word, Access, Excel and PowerPoint.
- Free laser printing for educational purposes.

Tutoring services provide:

- Assistance with Internet searches and expanding general research skills.
- Targeted aid for assignments and subject areas, including math, computer use, and the social sciences.
- Help with Microsoft Word and developing written reports.
- Test-reading services as needed.
- Counseling for improving general study habits.
- Computerized tutorials for specific areas of study.

College Housing - Beloit Campus:

NCKTC has available eight on-campus housing units. Each unit includes four apartments capable of housing four residents. Each apartment is self-contained with a bathroom, two bedrooms, living room, dining area, refrigerator, phone, internet and cable TV service. Housing information and application can be found at www.ncktc.edu. A coin operated laundry facility is located adjacent to the housing units. All utilities are included in the monthly rental fee. NCKTC provides students with a bed, built in dresser, and kitchen table and chairs. Students will need to provide all other living accommodations including: linens, toiletry items and cleaning supplies.

Off Campus Housing:

Students desiring off-campus housing should contact the Student Services office on the Beloit Campus or the Administration Office on the Hays Campus for information.

College Housing - Hays Campus:

The Gateway program is an option for students to reside in residence halls at FHSU while attending NCKTC classes.

Activities:

Student Senate - The Beloit and Hays Campuses each have a Student Senate organization. The Student Senate consists of one representative from each program. The senate is responsible for the following:

- Providing students with a voice between their departments and the Senate.
- Representing the student body.
- Assisting in the development and production of the NCKTC yearbook.
- Being an ambassador for the college.
- Providing input on policy and non-policy matters.

Intramural Activities - A variety of intramural activities are conducted and organized by the Activities Director each year. Students attending the Beloit Campus have access to a lighted softball field, and wellness center which allows opportunities for students to participate in the following:

- | | | | |
|-----------|-------------|----------------|---------------|
| •Softball | •Basketball | •Flag Football | •Racquet Ball |
| •Bowling | •Volleyball | •Water Sports | •Frisbee Golf |

Student Union Facilities:

Students are encouraged to utilize all services at the Student Union on the Beloit Campus. These include:

- | | |
|------------------|----------------------------|
| •Cafeteria | •Swimming and Therapy Pool |
| •Game Room | •Gymnasium |
| •Wellness Center | •Bookstore & Gift Store |

Student Organizations:

Leadership training is a significant, essential and integrated part of the technical curriculum. Each department is strongly encouraged to have departmental organizations. Student organizations affiliate with state and national organizations that most closely serve the occupational objectives of the curriculum including:

- B.P.A. - Business Professionals of America
- N.T.H.S. - National Technical Honor Society
- Skills U.S.A.

Students in these organizations are very active. Attendance and participation at the state and national level have brought students many awards and recognition and assisted in the realization of learning, leadership and skill development.

Food Service:

Food service is provided to resident and non-resident students on the Beloit campus in the cafeteria located in the Student Union.

Fourteen meals per week are served during the college year - three meals per day Monday through Thursday and two meals on Friday (breakfast and lunch).

Students enrolled in the Gateway Plan on the Hays campus may elect to participate in a variety of meal plan options.

COLLEGE POLICIES

Educational Records Management:

On November 19, 1974, the Family Educational Rights and Privacy Act of 1974, as amended, became law. Under this law, eligible students or any parent/guardian of any student enrolled in any educational institution receiving federal funds, are given certain rights concerning their educational records.

Eligible student means a student who has attained 18 years of age or is attending an institution of post-secondary education. It is assumed the eligible student is dependent upon his or her parents for financial support.

Educational records are maintained by the college for all students accepted for enrollment. The Act also states that students are entitled to a hearing to challenge the content of these educational records. Some of the grounds on which records may be challenged are:

- a) The records are inaccurate.
- b) Misleading.
- c) In violation of the privacy or other rights of students.
- d) Contains inappropriate data.

Students will be provided an opportunity for the correction or deletion of any such inaccurate, misleading or otherwise inappropriate data contained therein and to insert into such reports a written explanation.

Before any personal, identifiable, or educational record will be released to third parties, written consent must be given by the student.

Eligible students or parents have the right to appropriate interpretations of the content of their educational records.

The following information is defined as directory information: name; address; telephone listing; date and place of birth; major field of study; recognized activities and sports; dates of attendance; degrees and awards received; parents or guardian's name; and the most recent previous educational agency or institution attended by the student. If a student believes that any or all of the above directory information should not be released, the Registrar must be notified in writing.

In keeping with the Rights and Privacy Act, the office of Financial Aid will only release information about the student's financial aid situation to those parties within the college concerned with the student's financial welfare, as it relates to attendance at North Central Kansas Technical College. Inquiries from off campus agencies such as the State Department of Social and Rehabilitation Services, etc., will be answered only if the student provides the Financial Aid Office with a written release form.

In addition, the student's college records and information can, and will only be released to any other party only after the student has signed a release form granting the college permission to share the student's information with the party or parties identified. Release forms can be obtained from the Registrar's Office.

A copy of the Educational Records Policy is available at the Administration Office. After exhausting all procedures, the student has a right to file a complaint with the Department of Health, Education and Welfare, Room 5660, 330 Independence Ave., S.W., Washington, D.C. 20201 or phone (202) 245-7488.

Transfer Policy:

Transcription of credit from another institution by NCKTC will require the student to:

1. Have an **official transcript** from the secondary or post-secondary institution on file with NCKTC (Student-issued transcripts are not acceptable.)
2. Have a **D or higher**, or the equivalent of 1.0 on a 4.0 scale grade, in all classes being considered for transfer or award; **Note:** Certain programs require a C or higher grade for credit to be awarded, please consult with the Department Chair to determine the requirements of each program. Approved departmental academic requirements supersede institutional academic requirements.
3. **Only for courses approved for certificate/degree credit** will be considered for credit at the awarding institution; **Note:** A course description, course outline or course syllabus may be requested for each course the student wishes to be considered for acceptance by NCKTC.

Credit for any articulated courses and/or transfer credit (high school and/or postsecondary coursework from another accredited institution) will appear on the student's North Central Kansas Technical College transcript. Credits awarded from other institutions will be used to calculate the student's cumulative grade point average.

General Education Courses:

General education courses taken at regionally accredited colleges, universities or other recognized institutions may be submitted to the NCKTC Registrar for evaluation and possible acceptance. The Registrar will consult with the Dean of Instructional Services to make the final determination of transferability. General education coursework must be at the 100 level or above. If a student has completed an associate or higher level degree from an accredited institution of higher education, prior to entering a program of study at NCKTC, the general education courses will be accepted in total for the NCKTC general education requirements. These courses must meet the general education requirements of NCKTC's accrediting body.

Technical Education Courses:

Technical education courses taken at another accredited postsecondary or higher education institution may be submitted to the NCKTC Registrar for evaluation and possible acceptance. The program instructor and Department Chair will make the determination of transferability with final approval by the Dean of Instructional Services.

Technical education coursework transferred will not exceed the number of credit hours required in the first semester of the freshman year. Technical education coursework eligible for transfer must have been completed within five years prior to enrollment.

Evidence of relevant experience in the industry may be presented for coursework taken more than five years before a request for transfer of credit is made, or NCKTC coursework taken more than five years before a request is made. This evidence will be evaluated by the Dean of Instructional Services and the appropriate Department Chair for transferability.

Articulated Credit:

Students may seek tuition reduction or award of credit received from a secondary institution that has in place a current articulation agreement with NCKTC. Determination of tuition reduction or award of credit will be based on the terms and status of the articulation agreement. Any student seeking transfer of credit or award of articulated credit must meet the same admissions requirements as all NCKTC students.

Transfer of NCKTC Technical Education Credit Between Programs:

With approval from the program instructor and Dean of Instructional Services and upon completion of a written request for academic credit transfer, students may transfer program-specific courses in one program of study to other NCKTC programs of study.

Transfer of Courses from NCKTC:

Students wishing to transfer credit from North Central Kansas Technical College to another higher education institution must request, in writing, a transcript be sent from the Registrar to the receiving higher education institution. The receiving institution will determine acceptance of NCKTC coursework for transfer of credit. Written requests must be submitted to:

North Central Kansas Technical College
Office of the Registrar
3033 US Hwy 24, PO Box 507
Beloit, KS 67420

Notice of Non-Discrimination:

In compliance with the Executive Order 11246; Title II of the Educational Amendments of 1976; Title VI of the Civil Rights Act of 1964, as amended by the Equal Employment Opportunity Act of 1972; Section 504 of the Rehabilitation Act of 1973; and all other Federal, State, college policies, laws, regulations and policies, NCKTC Beloit-Hays, KS, shall not discriminate on the basis of sex, race, color, national origin or handicap in the education programs or activities which it operates.

It is the schools intent to comply with both the letter and spirit of the law in making certain that discrimination does not exist in its policies, regulations and operations. Grievance procedures for Title IX and Section 504 have been established for students; parents or guardians; and employees who feel discrimination has been shown by the local education agency.

Specific complaints of alleged discrimination under Title IX and Section 504 should be referred to:

Dean of Instructional Services, NCKTC
PO Box 507
Beloit, KS 67420
785-738-9055

Title VI, Title IX and Section 504 complaints may also be filed with the Regional Office for Civil Rights.

Address correspondence to:
U.S. Department of Education
Region VIII
Office for Civil Rights
10220 N. Executive Hills Blvd.
Kansas City, MO 64153

Services for Students with Disabilities Policy:

Students with either a permanent or temporary disability, who require accommodations for more than one week, should request services by contacting the Director of Learning Resources. Students requesting accommodations must present written documentation from a certified professional, which should include a statement identifying the disability as well as recommendations for accommodations. Contact the Director of Learning Resources at 785-738-9020 at least one month in advance to make requests for accommodations.

Drug and Alcohol Abuse Policy:

The North Central Kansas Technical College Board of Trustees, administration and staff believe that maintaining a drug-free educational environment is critical to the success of every student. North Central Kansas Technical College fully complies with all provisions of the Drug Free Colleges and Communities Act, PL 101-226, 103 Statue. 1928.

It is the policy of NCKTC that the possession, use, distribution and/or sale of alcoholic beverages, illegal drugs, drug paraphernalia, and/or other controlled substances (except as medically prescribed) by students and employees are prohibited on the college campus, within the college buildings, at any training station or at any college-sponsored event. Violation will result in immediate disciplinary action, up to and including dismissal from college. Appropriate legal action will be taken by NCKTC. Students or employees acting in an accessory role are also subject to disciplinary and legal action.

Students who violate the terms of the NCKTC Drug and Alcohol Abuse Policy violate the NCKTC Student Code of Conduct and will be subject to the following sanctions:

- 1) Suspension from classes and activities
- 2) Expelled from college
- 3) Mandatory attendance at counseling sessions and/or educational seminars
- 4) Community Restitution/Service
- 5) Parental Notification as provided by federal law
- 6) Probation, \$75 Fine, 10 Hours Community Service (for dorm students only)

Appropriate legal action will be taken by NCKTC. Students acting in an accessory role are also subject to disciplinary and legal action.

Students in violation of the NCKTC Drug and Alcohol Abuse Policy may be required to meet with a counselor and/or complete a drug or alcohol education or treatment program as a condition of continued enrollment. The cost of completing such a program will be the responsibility of the student. Students subject to these penalties will be provided all rights of due process to which each student is entitled to by law or under current policies affecting student's discipline.

Tobacco Use Policy:

No smoking or tobacco use will be permitted in any building on campus.

Weapons Policy:

A student shall not knowingly possess, handle or transmit any object that can reasonably be considered a weapon at any college class, activity, function or event.

This policy shall include any item being used as a weapon or destructive device or any facsimile of a weapon.

Possession of a firearm results in expulsion from the college for a period of one year (180 academic days). The President may recommend that this expulsion requirement be modified on a case-by-case basis under the provisions of the Board of Trustees Policy JDC (Probation). Students violating this policy will be referred to the appropriate law enforcement agency(ies) or to SRS (if a juvenile).

As used in this policy, the term "firearm" means any weapon (including a starter gun) which will, or is designed to, or may readily be converted to expel a projectile by the action of an explosive, the frame or receiver of any such weapon, any firearm muffler or silencer, or any destructive device.

As used in this policy, the term "destructive device" means any explosive, incendiary or poisonous gas, bomb, grenade, rocket (having a propellant charge of more than four ounces), missile (having an explosive or incendiary charge of more than one-quarter ounce), mine, or other device similar to any of these devices.

Right-to-Know Policies:

Sexual Harassment - Information regarding Sexual Harassment is contained in the North Central Kansas Technical College Student Handbook. Any questions regarding this area should be directed to the Dean of Instructional Services at 785-738-9057 or toll free at 1-800-658-4655.

Student Indebtedness - For current information regarding the average dollar amount that a North Central Kansas Technical College student has incurred under the federal loan program, please contact the Office of Student Financial Aid at 785-738-9028 or toll free at 1-800-658-4655.

Public Inquiry - North Central Kansas Technical College may release without written consent certain information identified by the institution as public or directory information provided the following conditions are met prior to disclosure:

- a) Students are informed of categories of information designated as directory information.
- b) Students are given the opportunity to refuse disclosure of any or all directory information.
- c) Students are given the opportunity not to disclose any financial aid or student account information to parents or guardians.
- d) Students are given a reasonable amount of time in which to state such refusals in writing.

Release of information other than directory information requires written permission from the student.

Student's Right-to-Know Bill - For more information about the Federal Right-to-Know Bill concerning campus statistics and security policies, contact the Dean of Student Services at 785-738-9008 or 800-658-4655.

Other - To express any concern or to seek other information not addressed previously, contact:

Dean of Student Services
North Central Kansas
Technical College
PO Box 507
3033 US 24 Hwy, Beloit, KS 67420
or call 1-800-658-4655

Dean of Hays Campus
North Central Kansas
Technical College - Hays Campus
2205 Wheatland Ave, Hays, KS 67601
or call 1-888-567-4297

PROGRAMS OF STUDY

One Year Certificate Programs

Bricklaying

Business Management

Business Technology

Carpentry/Cabinetmaking

Culinary Arts

Heavy Equipment Operation

Information Technology

Pharmacy Technician

Plumbing, Heating and Air Conditioning

Practical Nursing

Residential Electricity

Welding

Bricklaying

Beloit Campus

The **Bricklaying Program** is supported with the National Center for Construction, Education and Research (NCCER) curriculum and provides training for employment in the Masonry field. Students will gain knowledge and practical application of masonry cements, bonds and their construction use from a NCCER certified instructor. Students may participate in an internship with local masonry employers to receive valuable on-the-job training. Upon successful completion of the program students will receive a Bricklaying Certificate.

Program Outcomes

- Demonstrate proper mortar mixing technique
- Demonstrate brick, block and stone construction
- Show layout procedure for brick and block
- Practice proper dress and job safety
- Demonstrate job set-up procedure
- Calculate and estimate for a small brick and block project
- Operate a brick saw
- Demonstrate scaffold erection

Course Code	Course Title	Credits
FIRST SEMESTER:		
BL-101	Safety/OSHA/History & Modern Development of Brick	4
BL-104	Bonds (Sand, Lime & Cement)	5
BL-105	Types of Walls I	3
BL-106	Mathematics	1
	TOTAL	13
SECOND SEMESTER:		
BL-102	Preliminary Consideration in Construction	5
BL-107	Blueprint Reading	1
BL-108	Estimating	1
BL-110	Types of Walls II	4
BL-111	Shop Practicum	2
	or	
BL-109	Internship	2
	TOTAL	13
	INTERNSHIP OPTION	13
GENERAL EDUCATION COURSES:		
CIS-100	Computer Applications	3
	Choose One MA (Math) Class	3
MA-100	Basic College Math (or)	
MA-101	Business Math	
SS-100	General Psychology	3
	TOTAL	9
	Total Credit Hours	35

***Optional: The Bricklaying program can be combined with other construction trade programs (Carpentry/Cabinetmaking, Heavy Equipment Operation, Plumbing Heating and Air-Conditioning, or Residential Electricity) to achieve an Associate of Applied Science degree in Building Construction Technology. Refer to the Building Construction Technology requirements on page 38 for more information.**

***Note additional General Education courses required.**

Business Management

Beloit & Hays Campuses

The **Business Management Program** provides training in marketing, merchandising, accounting and management/entrepreneurship. Students will develop the necessary business skills to be successful in a variety of career opportunities such as sales, promotion, retail, management and other related fields. Students who successfully complete the program of study will receive a Business Management Certificate.

Program Outcomes

- Demonstrate the skill to journalize, post, and complete financial statements.
- Demonstrate the skill for entry-level employment in their field.
- Demonstrate management and entrepreneurship skills.
- Demonstrate marketing and selling skills.
- Demonstrate technical skills for entry-level employment.
- Demonstrate attitudes and behavior to perform entry-level employment in a professional manner.
- Demonstrate communication, mathematics, behavioral science, and computer literacy skills.

Course Code	Course Title	Credits
FIRST SEMESTER:		
BMGT-102	Visual Merchandising	3
BMGT-105A	Internship	3
BMGT-108	Business Management/Entrepreneurship	3
BMGT-109	Business Law Concepts	3
BT-103/*215	Financial Accounting I or III	3
	TOTAL	15
SECOND SEMESTER:		
BMGT-104	Intro to Marketing	3
BMGT-105B	Internship	1
BMGT-107	Financial Accounting II	3
BT-100/*200	Introduction to Business I or II	3
BT-113	Computerized Accounting (or)	3
*BT-210	*Computerized Accounting II	3
	TOTAL	13
GENERAL EDUCATION COURSES:		
CIS-100	Computer Applications (or)	3
CIS-108	Advanced Computer Applications (Beloit Campus Only)	3
	Choose One MA (Math) Class	3
MA-100	Basic College Math (or)	
MA-101	Business Math	
SS-100	General Psychology	3
	TOTAL	9
	Total Credit Hours	37

*BT course numbers starting with 200 are for 2nd year students only.

Business Technology
Hays Campus

The Business Technology Program prepares students for positions in the business environment. Students receive training in the latest business software applications including word processing, desktop publishing, spreadsheet, and database programs. Students also learn computerized accounting and financial accounting. Students who successfully complete the program will receive a Business Technology One Year Certificate.

Program Outcomes

- Demonstrate the skill for entry-level employment in their field.
- Demonstrate the skill to use a database software package.
- Demonstrate the skill to use a spreadsheet software package.
- Demonstrate the skill to use a word processing software package.
- Demonstrate the skill to journalize, post, and complete financial statements.
- Demonstrate technical skills for entry-level employment.
- Demonstrate attitudes and behavior to perform entry-level employment in a professional manner.
- Demonstrate communication, mathematic, behavioral science, and computer literacy skills.

Course Code	Course Title	Credits
FIRST SEMESTER:		
BT-101	Computer Operating Systems	3
BT-103/*215	Financial Accounting I or III	3
BT-104	Word Processing Applications	3
BT-108	Spreadsheet Applications	3
	TOTAL	12
SECOND SEMESTER:		
BT-100/*200	Introduction to Business I or II	3
BT-106	Desktop Publishing	3
BT-109	Database Applications	3
BT-110	Multimedia Applications	3
BT-113	Computerized Accounting I (or)	3
*BT-210	Computerized Accounting II	3
	TOTAL	15
GENERAL EDUCATION COURSES:		
CIS-100	Computer Applications	3
	Choose One MA (Math) Class	3
MA-100	Basic College Math (or)	
MA-101	Business Math	
SS-100	General Psychology	3
	TOTAL	9
	Total Credit Hours	36

*BT course numbers starting with 200 are for 2nd year students only.

Carpentry/Cabinetmaking

Beloit & Hays Campuses

The **Carpentry/Cabinetmaking Program** is supported with the National Center for Construction, Education, and Research (NCCER) curriculum and is designed to provide the skills, knowledge and pride of workmanship necessary to become a successful carpenter or cabinetmaker. Students will gain hands-on experience from a NCCER certified instructor in planning, estimating, drawing and building the NCKTC Project House in Beloit or various practical projects in Hays. Students who successfully complete the program of study will receive a Carpentry Certificate.

Program Outcomes

- Sketch diagrams of building projects and manipulate them into working drawings.
- Demonstrate proper use of drafting tools and equipment to produce working drawings.
- Lay out building lines for footings and foundations. Setting batter boards and demonstrate correct use of leveling instruments.
- Construct floor, wall and roof systems. Apply framing square techniques for rafter and stair applications.
- Complete exterior wall and finishes including doors, windows and trim.
- Acquaint self with estimating of building materials and labor costs.
- Establish a working estimate of materials and labor from a working drawing or blueprint.
- Estimate and install wall and ceiling insulation on an existing structure.
- Hang, tape, and finish drywall on walls and ceilings. Complete interior finish process by painting, texturing and installing doors and trim.
- Develop a plan for designing and creating working drawings for cabinetry to complete interior finish process.
- Demonstrate proper and safe use of portable and stationary power tools.
- Exhibit construction methods used in the cabinet industry.

Course Code	Course Title	Credits
FIRST SEMESTER:		
OSHA-110	OSHA Training	1
CC-101	Basic Drafting	1
CC-106	Introductory Craft Skills	3
CC-107A	Carpentry Basics	2
CC-108	Floors, Walls & Ceiling Framing	4
CC-109	Roof Framing	3
	TOTAL	14
SECOND SEMESTER:		
CC-105	Cabinetmaking	4
CC-107B	Carpentry Basics	2
CC-110	Windows, Doors & Stairs	3
CC-111	Interior Finish	3
CC-112	Exterior Finish	1
	TOTAL	13
GENERAL EDUCATION COURSES:		
CIS-100	Computer Applications	3
	Choose One MA (Math) Class	3
MA-100	Basic College Math (or)	
MA-101	Business Math	
SS-100	General Psychology	3
	TOTAL	9
	Total Credit Hours	36

***Optional:** The Carpentry/Cabinetmaking program can be combined with other construction trade programs (Bricklaying, Heavy Equipment Operation, Plumbing Heating and Air-Conditioning, or Residential Electricity) to achieve an Associate of Applied Science degree in Building Construction Technology. Refer to the Building Construction Technology requirements on page 38 for more information.

***Note additional General Education courses required.**

Culinary Arts

Beloit Campus

The Culinary Arts Program offers the job knowledge and skills to enter the food service industry. Students gain valuable hands-on experience in nutrition, quantity foods, buffet decoration, catering, baking, artistry for the baker and entrepreneurial skills. Upon successful completion of the program the student will be awarded a Culinary Arts Certificate.

Program Outcomes

- Apply proper personal hygiene, food handling safeguards, and standard cleaning and sanitizing techniques.
- Recognize and demonstrate safe and proper use of kitchen tools and equipment.
- Explain and illustrate an understanding of terminology and knowledge of food purchasing and inventory control.
- Demonstrate and understand the proper use of a standard recipe.
- Produce meats, fish and shellfish that meet industry standards.
- Produce properly cooked fruits, vegetables and starches.
- Incorporate standard baking practices to produce quality baked goods.

Course Code	Course Title	Credits
FIRST SEMESTER:		
CA-100	Sanitation, Safety & Housekeeping	1
CA-101	Standard Kitchen Tools & Equipment	3
CA-103	Food Purchasing & Inventory	3
CA-106	Recipe Structure & Uses	3
	TOTAL	10
SECOND SEMESTER:		
CA-104	Understanding & Cooking Meats, Fish & Shellfish	5
CA-107	Understanding & Cooking Fruits, Vegetables & Starches	5
CA-108	Understanding & Overview of Quality Baking	5
	TOTAL	15
GENERAL EDUCATION COURSES:		
CIS-100	Computer Applications	3
	Choose One MA (Math) Class	3
MA-100	Basic College Math (or)	
MA-101	Business Math	
SS-100	General Psychology	3
	TOTAL	9
	Total Credit Hours	34

Heavy Equipment Operation

Beloit Campus

The Heavy Equipment Program is supported with the National Center for Construction, Education, and Research (NCCER) curriculum. This is the only Heavy Equipment Operator Program in the State of Kansas and is the leading program in the Midwest. Hands-on training is provided by NCCER certified instructors with scrapers, motor graders, tractor crawler operations, excavators, loaders and backhoes. Students learn the use of hand level, laser levels and GPS to check grade. Also, theory course training includes rollers, asphalt and concrete paving equipment. Internships are available. A Heavy Equipment Certificate will be awarded upon successful completion of the program.

Program Outcomes

- Explore concepts and equipment related to underground technology.
- Safely operate crawler tractor for entry level employment in construction industry.
- Safely operate scraper for entry level employment in construction industry.
- Safely operate motor grader for entry level employment in construction industry.
- Safely operate loader tractor for entry level employment in construction industry.
- Safely operate backhoe and excavator for entry level employment in construction industry.
- Safely operate various types of rollers.
- Able to check and read grade stakes.

Course Code	Course Title	Credits
FIRST SEMESTER:		
HE-101	Occupational & Pre-Operational Safety & Basic Maintenance	1
HE-104	Crawler Tractor Operations & Maintenance I	3
HE-105	Scraper Operations & Maintenance I	3
HE-106	Motor Grader Operations & Maintenance I	3
HE-107	Loader Operations & Maintenance I	1
HE-108	Backhoe/Loader/Excavator Operations & Maintenance I	1
	TOTAL	12
SECOND SEMESTER:		
OSHA-110	OSHA Training	1
HE-110	Related Equipment Instruction	2
HE-112	Crawler Tractor Operations & Maintenance II	3
HE-113	Scraper Operations & Maintenance II	3
HE-114	Motor Grader Operations & Maintenance II	3
HE-115	Basic Employability Skills	1
HE-116	Backhoe/Loader/Excavator Operations & Maintenance II	2
HE-117	Grade Stake & Civil Plan Reading	1
HE-118	or	
	Internship	2
	TOTAL/INTERNSHIP OPTION	16
UNDERGROUND TECHNOLOGY: (Offered Year Around)		
HE-120	Locator Operations-Level I	1
HE-125	Horizontal Directional Drilling-Level I	2
	TOTAL	3
GENERAL EDUCATION COURSES:		
CIS-100	Computer Applications	3
	Choose One MA (Math) Class	3
MA-100	Basic College Math (or)	
MA-101	Business Math	
SS-100	General Psychology	3
	TOTAL	9
	Total Credit Hours	40

***Optional: The Heavy Equipment Operation program can be combined with other construction trade programs (Bricklaying, Carpentry/Cabinetmaking, Plumbing Heating and Air-Conditioning, or Residential Electricity) to achieve an Associate of Applied Science degree in Building Construction Technology. Refer to the Building Construction Technology requirements on page 38 for more information. *Note additional General Education courses required.**

Information Technology
Beloit Campus

The **Information Technology Program** provides training in network administration, web page design, PC Maintenance, intranet and Internet operations, diagnosing and troubleshooting computer problems and software applications. Students will build and maintain a computer network system. Courses prepare the student for various certifications including the A+, Network+ and Microsoft Certified Application Specialist. Students have the option of an Information Technology Certificate or an Associate of Applied Science Degree after successfully completing the program of instruction.

Program Outcomes

- Develop entry-level computer technology skills used in employment.
- Model Computer Construction, Maintenance and Troubleshooting.
- Facilitate Network Technologies.
- Generate Software and Application Programs.
- Model Desktop Publishing Software.
- Design Web Media and Web Programming.

Course Code	Course Title	Credits
FIRST SEMESTER:		
ACIT-100 or	Computer Concepts	2
ACIT-103	Applied Computer Concepts	2
ACIT-101	Operating Systems	3
ACIT-104	Internet Applications	2
ACIT-105	Help Desk	1
ACIT 110	Advanced Word/Excel	2
TNT-140	Computer Networks I	3
	TOTAL	13
 SECOND SEMESTER:		
ACIT-106	PC Servicing & Upgrade	4
ACIT-109	Website Development I	3
ACIT-203	Programming I	3
TNT-230	Computer Networks II	3
	TOTAL	13
 GENERAL EDUCATION COURSES:		
CIS-108	Advanced Computer Applications	3
	Choose One MA (Math) Class	3
MA-100	Basic College Math (or)	
MA-101	Business Math	
SS-100	General Psychology	3
	TOTAL	9
	Total Credit Hours	35

Pharmacy Technician
Hays Campus

The Pharmacy Technician Certificate Program is designed as a two-semester program. It provides the student with the fundamental knowledge, skills, and training necessary for entry-level employment. Students will receive training in pharmaceutical calculations, institutional and community based pharmacy practice, and operations and management. Upon successful completion of the program, students will be awarded a Certificate and will be registered as a Pharmacy Technician by the Kansas State Board of Pharmacy.

Program Outcomes

- Apply the federal, state, and local laws; regulations and professional standards to pharmacy practice.
- Analyze the role of the Pharmacy Technician in distributive pharmacy.
- Demonstrate knowledge of human anatomy and physiology and pharmacology.
- Perform math function, dosage calculation and compounding techniques.
- Demonstrate ethical and professional conduct in all job-related activities.
- Design and relate messages for effective and appropriate oral and written communication.

Course Code	Course Title	Credits
FIRST SEMESTER:		
PHRM-101	Orientation to Pharmacy Practice	3
PHRM-102	Pharmaceutical Calculations	3
PHRM-111	Pharmacy Operations	3
PHRM-125	Pharmacology for Pharmacy Technicians I	3
	TOTAL	12
 SECOND SEMESTER:		
PHRM-105	Pharmacy Technician Internship I	4
PHRM-108	Pharmacy Technician Seminar	1
PHRM-207	Advanced Pharmacy Operations w/Lab	3
	TOTAL	8
 GENERAL EDUCATION COURSES:		
Choose One MA (Math) Class		3
COM-103	English Composition I	3
COM-210	Medical Terminology	3
MA-110	Intermediate Algebra (or)	
MA-111	College Algebra	
SOC-135	Introduction to Sociology	3
	TOTAL	12
	Total Credit Hours	32

Plumbing, Heating and Air Conditioning

Beloit & Hays Campuses

The **Plumbing, Heating & Air Conditioning Program** prepares students for entry-level positions in the Plumbing, Heating & Air Conditioning field. Students will receive training in planning, installation and maintaining plumbing, heating and air conditioning systems and water pumps. Internships with employers are available to receive valuable on-the-job training. A PHAC Certificate will be granted upon successful completion of the program and students will have the opportunity to take the journeyman license exam and industry competency exam.

Program Outcomes

- Apply refrigeration cycle
- Acknowledge electrical theory
- Apply regulations of the Uniform Plumbing Code
- Be aware of high and low volt circuits
- Apply gas heating
- Recognize drain waste vent systems

Course Code	Course Title	Credits
FIRST SEMESTER:		
OSHA-110	OSHA Training	1
PHAC-101	Plumbing I	4
PHAC-102	Electricity I	3
PHAC-103A	Heating & Sheet Metal I	3
PHAC-105A	Air Conditioning I	3
	TOTAL	14
SECOND SEMESTER:		
PHAC-103B	Heating & Sheet Metal II	3
PHAC-104	Plumbing II	2
PHAC-105B	Air Conditioning II	2
PHAC-106	Electricity II	2
PHAC-108	Shop Practicum	3
	or	
PHAC-109	Internship	3
	TOTAL	12
	INTERNSHIP OPTION	12
UNDERGROUND TECHNOLOGY: (Offered Year Around)		
HE-120	Locator Operations-Level I	1
	TOTAL	1
GENERAL EDUCATION COURSES:		
CIS-100	Computer Applications	3
	Choose One MA (Math) Class	3
MA-100	Basic College Math (or)	
MA-101	Business Math	
SS-100	General Psychology	3
	TOTAL	9
	Total Credit Hours	36

***Optional: The Plumbing Heating and Air-Conditioning program can be combined with other construction trade programs (Bricklaying, Carpentry/Cabinetmaking, Heavy Equipment Operation, or Residential Electricity) to achieve an Associate of Applied Science degree in Building Construction Technology. Refer to the Building Construction Technology requirements on page 38 for more information.**

***Note additional General Education courses required.**

Practical Nursing
Beloit Campus

The Practical Nursing Program is a full-time 9-month program leading to a certificate. The student will receive education to perform nursing measures with precision and efficiency consistent with current evidence-based practices. Nursing theory is taught in the classroom, campus laboratory and clinical sites by professionals in the nursing field. Students obtain extensive clinical experience through hands-on experiential learning. Upon completion, students are prepared for licensure through the National Council Licensure Examination (NCLEX-PN®).

Program Outcomes

The graduate of NCKTC's Practical Nursing Program will complete the objectives identified by the Kansas Core Curriculum. They are:

- Provide nursing care within the scope of the ethical and legal responsibilities of practical nursing.
- Utilized the nursing process to identify basic needs of the client throughout the life span for health promotion and maintenance, or when biological, spiritual, cultural and psychosocial needs are not being met.
- Provide safe and skillful therapeutic care in simple nursing situations based on knowledge of biological, cultural, spiritual, and psychosocial needs of the client throughout the lifespan.
- Demonstrate effective interpersonal relationships with the client, the client's family and the members of the interdisciplinary health care team.
- Demonstrate responsibilities of the practical nurse as an individual who collaborates within the healthcare system and the community.

PRE-REQUISITE COURSES:

BIOL-230	Human Anatomy & Physiology w/Lab	5
HE-230	Principles of Nutrition	3
SS-100	General Psychology	3
SS-105	Human Growth & Development	3
	TOTAL	13

Course Code	Course Title	Credits
FIRST SEMESTER:		
KSPN-100	Foundations of Nursing	4
KSPN-106	Medical Surgical Nursing I	4
KSPN-115	Foundations of Nursing Clinical	2
KSPN-116	Medical Surgical Nursing I Clinical	3
KSPN-119	Pharmacology	3
PN-102A	Strategies for Success I	1
	TOTAL	17

SECOND SEMESTER:		
KSPN-107	Gerontology Nursing	2
KSPN-108	Maternal Child Nursing	2
KSPN-112	Medical Surgical Nursing II	4
KSPN-117	Medical Surgical Nursing II Clinical	3
KSPN-118	Maternal Child Nursing Clinical	1
KSPN-120	Mental Health Nursing	2
PN-102B	Strategies for Success II	1
PN-123	Leadership for the PN	1
PN-130	Leadership for the PN Clinical	2
	TOTAL	18
	Total Credit Hours	48

Residential Electricity

Beloit & Hays Campuses

The Residential Electricity Program provides students the opportunity to gain technical knowledge and experience in residential and commercial wiring phases of the electrical industry. Training is in basic electricity, blueprint reading, circuits, motor controls and the National Electrical Code. Students experience hands-on application in the field. Students who successfully complete the program will be awarded a Residential Electricity Certificate.

Program Outcomes

- Perform sizing, installation and maintenance of residential electrical systems
- Perform sizing, installation and maintenance of commercial electrical systems
- Perform sizing, installation and maintenance of industrial electrical systems
- Interpret blueprints, schematics and diagrams
- Follow established safety procedures and guidelines
- Navigate and interpret the National Electric Code
- Perform installation and maintenance of motors and generators
- Perform installation and maintenance of transformers
- Troubleshoot electrical and electronic systems
- Use basic hand tools, meters and measuring devices
- Demonstrate effective workplace and communication skills

Course Code	Course Title	Credits
FIRST SEMESTER:		
EL-100	Electrical Safety/OSHA	1
EL-101	DC Circuits	4
EL-102	AC Circuits	4
EL-108	Wiring Methods	4
	TOTAL	13
SECOND SEMESTER:		
EL-103	Analog Circuits	4
EL-104	Electrical Blueprint Reading	1
EL-106	National Electrical Code	4
EL-107	Electrical Motor Controls	4
	TOTAL	13
GENERAL EDUCATION COURSES:		
CIS-100	Computer Applications	3
	Choose One MA (Math) Class	3
MA-100	Basic College Math (or)	
MA-101	Business Math	
SS-100	General Psychology	3
	TOTAL	9
	Total Credit Hours	35

***Optional:** This program can satisfy the first-year requirements for an Electrical Technology Associate of Applied Science degree. Refer to Electrical Technology Program, 3rd and 4th Semester on page 41 for more information.

***Optional:** The Residential Electricity program can be combined with other construction trade programs (Bricklaying, Carpentry/Cabinetmaking, Heavy Equipment Operation, or Plumbing Heating and Air-Conditioning) to achieve an Associate of Applied Science degree in Building Construction Technology. Refer to the Building Construction Technology requirements on page 38 for more information.

***Note additional General Education courses required.**

Welding
Beloit & Hays Campuses

The Welding Program provides specialized training in welding safety, theory, mathematics, cost analysis/layout, blueprint reading and pipe template development for the pipe trades. Students will be involved in all phases used in the welding industry; to include: SMAW, oxy-fuel welding/cutting, carbon arc cutting/gouging, GMAW, FCAW, plasma cutting/gouging, and GTAW. Students will be proficient in all positions on mild steel, aluminum and stainless steel plate and pipe according to AWS, ASME and API codes and standards. Upon completion of program students can become a certified welder in a variety of welding disciplines by successfully passing certification tests.

Program Outcomes

- Apply safe working practices while welding and cutting
- Prepare quality welds using the SMAW process
- Prepare quality welds using the OFW process
- Produce quality cuts using various cutting equipment and techniques
- Prepare quality welds using GMAW/FCAW process
- Prepare quality welds using GTAW process
- Construct products from blueprints

Course Code	Course Title	Credits
FIRST SEMESTER:		
WL-100	Welding Safety/OSHA 10	1
WL-101	Oxy-Acetylene/Oxy Fuel Procedures	3
WL-102	SMAW	3
WL-105	Special Welding Procedures	3
WL-106A	Blueprint Reading/Welding Symbols I	2
WL-109	Pipe Welding	2
	TOTAL	14
SECOND SEMESTER:		
WL-103	GMAW	3
WL-104	GTAW	3
WL-106B	Blueprint Reading/Welding Symbols II	4
WL-110	Advanced Cutting Processes	2
WL-111	Advanced Pipe Welding	2
WL-107	Shop Practicum	2
	or	
WL-108	Internship	2
	TOTAL	16
	INTERNSHIP OPTION	16
GENERAL EDUCATION COURSES:		
CIS-100	Computer Applications	3
	Choose One MA (Math) Class	3
MA-100	Basic College Math (or)	
MA-101	Business Math	
SS-100	General Psychology	3
	TOTAL	9
	Total Credit Hours	39

PROGRAMS OF STUDY

Associate of Applied Science Degree

Agricultural Equipment Technology

Automotive Collision Technology

Automotive Technology

Building Construction Technology

Diesel Technology

Electrical Technology

Electronic Engineering Technology

General Business

Information Technology

Nursing

Pharmacy Technician

Technical Studies

**Telecommunications and
Network Technology**

Welding Engineering Technology/Technician

Agricultural Equipment Technology

Beloit Campus

The **Agricultural Equipment Technology Program** provides a quality learning atmosphere and direct hands on experience designed to prepare the student to enter and thrive in the rapidly growing field of Agricultural Equipment Technology. The majority of the classroom time will be spent learning and discussing the systems, components, operation, diagnostics and troubleshooting. The curriculum scope also covers calibrations to each system as required by manufacturers. Classroom work will be supplemented with hands on experience in the lab of each system being studied. Operational tests and component adjustments covered in the classroom discussion will be demonstrated to the students. Each student will then be required to perform the same task as they were shown, and will be graded on their performance of this task. Upon successful completion of the program, students will earn an Associate of Applied Science Degree.

Program Outcomes

- Demonstrate the ability to maintain, diagnosis, and repair agriculture equipment in the most cost effective way.
- Apply customer communication skills, good business ethics, and proper shop operations.
- Explain how systems operate to include: electrical, hydraulic, power trains, computers, along with axles, brakes, and engines as they relate to these systems.
- Describe the flow through each system and circuit.
- Perform checks and adjust pressures.
- Verify electrical voltages using electrical diagnostic equipment.
- Analyze systems using computer programs, diagnostics and clear event codes with the use of a computer or onboard electronic devices used by manufacturers.

Course Code	Course Title	Credits
FIRST SEMESTER:		
AET-100	Intro to Shop Tools & Equipment/OSHA Safety	2
AET-103	Introduction to Electricity	2
AET-104	Agribusiness	2
AET-106	Small Engines	2
AET-109	Diesel & Gasoline Engines	5
	TOTAL	13
 SECOND SEMESTER:		
AET-105	Electrical Systems	3
AET-108	Hay Equipment	2
AET-111	Hydraulics	5
AET-203	Cab/Chassis Electrical	3
	TOTAL	13
 SUMMER		
AET-112	Internship	2
	TOTAL	2
 THIRD SEMESTER		
AET-201	Fuel Systems	4
AET-204	Heating & Air Conditioning	4
AET-205	Power Trains	4
	TOTAL	12
 FOURTH SEMESTER:		
AET-200	Setup and Pre-delivery of Agricultural Equipment	3
AET-202	Harvesting Equipment	2
AET-208	Advanced Agricultural Equip Technologies	7
	TOTAL	12

Agricultural Equipment Technology (Cont.)

Course Code	Course Title	Credits
<i>GENERAL EDUCATION</i>		
Communications (6 cr. hrs.)		
COM-103	English Composition I	3
COM-105	Fundamentals of Oral Communication	3
Computer Science (3 cr. hrs.)		
CIS-100	Computer Applications	3
Math (Choose One (3 cr. hrs.))		
MA-101	Business Math	3
MA-110	Intermediate Algebra	3
MA-111	College Algebra	3
Social Sciences (3 cr. hrs.)		
SS-100	General Psychology	3
Electives (Choose One (3 cr. Hrs.))		
SOC-135	Introduction to Sociology (or)	3
SS-105	Human Growth & Development (or)	3
BMGT-108	Business Management/Entrepreneurship	3
	TOTAL	18
	Total Credit Hours	70

Internship: As a pre-requisite the student will be required to perform the internship (2 credit hours) with an Ag dealership or Ag independent shop (95% of work performed as a Tech.) Also the student will have a passing grade (No "F" or "I") before being able to move into the 2nd year of the Ag Tech program. Special circumstances may be taken into consideration per Instructor and Dean of Instruction's discretion.

Automotive Collision Technology

Beloit Campus

The Automotive Collision Technology Program is supported with the I-CAR curriculum and provides students with the basic knowledge and skills for all phases of the auto body industry using the latest equipment and training materials. Students will receive training by I-CAR certified instructors in estimating, analyzing damage, metal and body work, performing complete and partial painting, glass replacement, final detailing, structural and non-structural repair, advanced estimating and refinishing, and plastic and sheet molded compound repair. Internships with employers are available. Students may become ASE certified and I-CAR welding certified. Upon successful completion of the two-year program, students will be awarded an Associate of Applied Science Degree in Automotive Collision Technology.

Program Outcomes

- Analyze automotive structural damage and repair requirements
- Analyze automotive non-structural damage and repair requirements
- Diagnose and repair collision damage mechanical and electrical components
- Demonstrate automobile painting and refinishing skills
- Demonstrate safe working habits and procedures within an auto-collision/repair facility
- Diagnose and repair automotive structural damage
- Diagnose and repair automotive non-structural damage
- Diagnose and repair automotive stationary and moveable glass

Course Code	Course Title	Credits
FIRST SEMESTER:		
OSHA-110	OSHA Training	1
ACRT-111	Non-Structural Analysis & Damage Repair I	4
ACRT-112	Painting & Refinishing I	3
ACRT-113	Structural Analysis & Damage Repair I	2
ACRT-114	Mechanical & Electrical I	3
	TOTAL	13
SECOND SEMESTER:		
ACRT-115	Non-Structural Analysis & Damage Repair II	4
ACRT-116	Painting & Refinishing II	3
ACRT-117	Structural Analysis & Damage Repair II	2
ACRT-118	Mechanical & Electrical II	3
	TOTAL	12
THIRD SEMESTER:		
ACRT-205	Advanced Estimating	1
ACRT-207	Non-Structural Analysis & Damage Repair III	4
ACRT-211	Painting & Refinishing III	3
ACRT-212	Structural Analysis & Damage Repair III	3
ACRT-213	Mechanical & Electrical III	3
	TOTAL	14
FOURTH SEMESTER:		
ACRT-214	Non-Structural Analysis & Damage Repair IV	5
ACRT-215	Structural Analysis & Damage Repair IV	3
ACRT-216	Painting & Refinishing IV	4
	TOTAL	12

Automotive Collision Technology (Cont.)

Course Code	Course Title	Credits
<i>GENERAL EDUCATION</i>		
Communications	(6 cr. hrs.)	
COM-103	English Composition I	3
COM-105	Fundamentals of Oral Communication	3
Computer Science	(3 cr. hrs.)	
CIS-100	Computer Applications	3
Math	Choose One (3 cr. hrs.)	
MA-101	Business Math	3
MA-110	Intermediate Algebra	3
MA-111	College Algebra	3
Social Sciences	(3 cr. hrs.)	
SS-100	General Psychology	3
Electives	Choose One (3 cr. Hrs.)	
SOC-135	Introduction to Sociology (or)	3
SS-105	Human Growth & Development (or)	3
BMGT-108	Business Management/Entrepreneurship	3
	TOTAL	18
	Total Credit Hours	69

Automotive Technology

Beloit & Hays Campuses

The Automotive Technology Program provides fundamental knowledge, skills, and training necessary for entry-level employment or career advancement as an automotive technician. The student will be trained in advanced brake systems, basic electrical, fuel systems, electronic automatic transmission drive trains, and alternative fuel vehicles. Electronics and computerization are emphasized to meet the changing demands of the automotive industry. Internships with employers are available. Students earn an Associate of Applied Science Degree upon successful completion of the program.

Program Outcomes

- Diagnose, service and repair automotive electrical systems
- Diagnose, service and repair automotive performance and driveability systems
- Diagnose, service and repair disc brakes, drum brakes and anti-lock braking systems
- Diagnose, service and repair suspension and steering systems
- Diagnose, service and repair heating and air conditioning systems
- Diagnose, service and repair engines
- Diagnose, service and repair automatic transmissions and transaxles
- Diagnose, service and repair manual drive trains and axles

Entrance Requirements

- Students wishing entrance into the Automotive Technology II class will submit in writing why they wish to be considered and future goals that they want this program to help them attain. Students applying for Automotive Technology will be selected by:
- Student must have achieved a passing grade in all Automotive Technology I courses.
- Students must have proof of a valid driver's license.
- All candidates will have a 2.5 GPA or above including all general education courses.

Course Code	Course Title	Credits
SEMESTER A:		
AMT-101	Brakes 1	3
AMT-102	Automotive Suspension/Steering	3
AMT-103	Electrical 1	3
AMT-104	Engine Performance 1	3
	TOTAL	12
SEMESTER B:		
AMT-105	Engine Performance Fuel Systems	3
AMT-106	Automotive Engine Repair	3
AMT-107	Automotive Manual Transmission	3
AMT-108	Automotive Automatic Transmission	3
AMT-109	Automotive Heating/Air Conditioning	2
	TOTAL	14
SEMESTER C:		
AMT-201	Electricity & Computers	6
AMT-202	Advanced Fuels	6
	TOTAL	12
SEMESTER D:		
AMT-203	Electronic Automatic Transmission	3
AMT-204	Advanced Suspensions & Safety Systems	3
AMT-205	OBD II & Multiplex Systems	3
AMT-208	Alternative Fuels	3
	or	
AMT-209	Internship	3
	TOTAL	12
	INTERNSHIP OPTION	12

Automotive Technology (Cont.)

Course Code	Course Title	Credits
<i>GENERAL EDUCATION</i>		
Communications		
	(6 cr. hrs.)	
COM-103	English Composition I	3
COM-105	Fundamentals of Oral Communication	3
Computer Science		
	(3 cr. hrs.)	
CIS-100	Computer Applications	3
Math		
	Choose One (3 cr. hrs.)	
MA-101	Business Math	3
MA-110	Intermediate Algebra	3
MA-111	College Algebra	3
Social Sciences		
	(3 cr. hrs.)	
SS-100	General Psychology	3
Electives		
	Choose One (3 cr. Hrs.)	
SOC-135	Introduction to Sociology (or)	3
SS-105	Human Growth & Development (or)	3
BMGT-108	Business Management/Entrepreneurship	3
	TOTAL	18
	Total Credit Hours	68

Building Construction Technology

Beloit & Hays Campuses

The Building Construction Technology Program combines key components of five other programs. It is aimed at producing highly skilled individuals with the ability to perform multiple tasks related to the construction trades. This program gives students the option to select two of the following 9 month programs: Bricklaying, Carpentry, Heavy Equipment Operation, Plumbing Heating and Air-Conditioning, and Residential Electricity. Upon successful completion of two programs and eighteen hours of General Education credits the student will be awarded an Associate of Applied Science Degree.

Program Outcomes

- Possess the knowledge to perform tasks appropriate for entry level employment in the Building Construction field.
- Demonstrate the skills appropriate to the Building Construction industry.
- Demonstrate knowledge of industry hazards and related safety practices.
- Use mathematical data and reasoning skills appropriate to the construction industry.
- Use effective communication skills.
- Demonstrate an understanding of personal and work characteristics that contribute to effective job performance.

Course Code	Credits
FIRST YEAR: Choose one	
Bricklaying	26
Carpentry/Cabinetmaking	27
Heavy Equipment	28
Plumbing, Heating, Air Conditioning	26
Residential Electricity	26
SECOND YEAR: Choose one	
Bricklaying	26
Carpentry/Cabinetmaking	27
Heavy Equipment	28
Plumbing, Heating, Air Conditioning	26
Residential Electricity	26

GENERAL EDUCATION

Course Code	Course Title	Credits
Communications (6 cr. hrs.)		
COM-103	English Composition I	3
COM-105	Fundamentals of Oral Communication	3
Computer Science (3 cr. hrs.)		
CIS-100	Computer Applications	3
Math (Choose One (3 cr. hrs.))		
MA-101	Business Math	3
MA-110	Intermediate Algebra	3
MA-111	College Algebra	3
Social Sciences (3 cr. hrs.)		
SS-100	General Psychology	3
Electives (Choose One (3 cr. Hrs.))		
SOC-135	Introduction to Sociology (or)	3
SS-105	Human Growth & Development (or)	3
BMGT-108	Business Management/Entrepreneurship	3
TOTAL		18
Total Credit Hours		70-72

Diesel Technology

Beloit Campus

The Diesel Technology Program provides specialized training in engine overhaul, electrical systems, torque converters, power trains and testing of diesel equipment. First year students will learn about the basics of diesel skills, measurements and practical application with large diesel equipment. Second year students will continue to develop skill sets in electronic engine control and diagnostic evaluations on diesel equipment. Internships with employers are available upon successful completion of the program.

Program Outcomes

- Demonstrate safety practices when working in a diesel engine shop.
- Apply the theory of diesel technology to the service and repair of equipment.
- Utilize mathematical reasoning and communication skills in relation to diesel mechanics profession
- Perform tasks necessary for an entry-level position in diesel mechanics profession
- Demonstrate ability to handle computers and hand-held diagnostic equipment, to make engine adjustments and diagnose problems.
- Demonstrate competence in mobile air conditioning, diagnostics, and the service of A/C systems.
- Proficiency in reading basic wiring diagrams and recognize electrical symbols used in such.
- Identify all Federal and State Standards in regard to OSHA and EPA regulations in a diesel shop.
- Identify the various electronic controls of a Cat, Detroit, and Cummins engine.

Course Code	Course Title	Credits
FIRST SEMESTER:		
DM-101	Diesel Engines	6
DM-103	Power Trains	6
	TOTAL	12
SECOND SEMESTER:		
DM-102	Hydraulics	6
DM-104	Electricity	6
	TOTAL	12
THIRD SEMESTER:		
OSHA-110	OSHA Training	1
DM-201	Truck/Heavy Equipment Repair	5
DM-203	Power Trains/Engine Overhaul	5
DM-208	Air Conditioning	2
	TOTAL	13
FOURTH SEMESTER:		
DM-205	Fuel Systems	7
DM-206	Diagnostics of Engines, Electrical & Hydraulic Systems	7
	(Vehicle management systems, electronic programming, safety inspection & commercial license)	
	or	
DM-207	Internship	5
	TOTAL	14
	INTERNSHIP OPTION	12

Diesel Technology (Cont.)

Course Code	Course Title	Credits
<i>GENERAL EDUCATION</i>		
Communications		
	(6 cr. hrs.)	
COM-103	English Composition I	3
COM-105	Fundamentals of Oral Communication	3
Computer Science		
	(3 cr. hrs.)	
CIS-100	Computer Applications	3
Math		
	Choose One (3 cr. hrs.)	
MA-101	Business Math	3
MA-110	Intermediate Algebra	3
MA-111	College Algebra	3
Social Sciences		
	(3 cr. hrs.)	
SS-100	General Psychology	3
Electives		
	Choose One (3 cr. Hrs.)	
SOC-135	Introduction to Sociology (or)	3
SS-105	Human Growth & Development (or)	3
BMGT-108	Business Management/Entrepreneurship	3
	TOTAL	18
	Total Credit Hours/With Internship	69/67

Electrical Technology

Beloit & Hays Campuses

The Electrical Technology Program provides students the opportunity to gain technical knowledge and experience in residential and commercial wiring and in industrial maintenance areas of the electrical industry. Training is in electrical theory, blueprint reading, motors, motor controls, programmable logic controls, and the National Electrical Code. Students experience hands-on work, including actual residential and commercial wiring installation. Students earn an Associate of Applied Science Degree upon successful completion of the program. Students also take a State Journeyman Electrician's License exam as a second year student.

Program Outcomes

- Perform sizing, installation and maintenance of residential electrical systems
- Perform sizing, installation and maintenance of commercial electrical systems
- Perform sizing, installation and maintenance of industrial electrical systems
- Interpret blueprints, schematics and diagrams
- Follow established safety procedures and guidelines
- Navigate and interpret the National Electric Code
- Perform installation and maintenance of motors and generators
- Perform installation and maintenance of transformers
- Troubleshoot electrical and electronic systems
- Use basic hand tools, meters and measuring devices
- Demonstrate effective workplace and communication skills

Course Code	Course Title	Credits
FIRST SEMESTER:		
EL-100	Electrical Safety/OSHA	1
EL-101	DC Circuits	4
EL-102	AC Circuits	4
EL-108	Wiring Methods	4
	TOTAL	13
SECOND SEMESTER:		
EL-103	Analog Circuits	4
EL-104	Electrical Blueprint Reading	1
EL-106	National Electrical Code	4
EL-107	Electrical Motor Controls	4
	TOTAL	13
THIRD SEMESTER:		
EL-201	Electrical Troubleshooting	3
EL-202	Programmable Controllers	4
EL-203	Generators	2
EL-204	Transformers	2
EL-205	Motors	2
	TOTAL	13
FOURTH SEMESTER:		
EL-206A	Commercial Wiring I	3
EL-206B	Commercial Wiring II	4
EL-207	Internship	6
	or	
EL-208	Shop Practicum	6
	TOTAL	13
	INTERNSHIP OPTION	13

Electrical Technology (Cont.)

Course Code	Course Title	Credits
<i>GENERAL EDUCATION</i>		
Communications		
	(6 cr. hrs.)	
COM-103	English Composition I	3
COM-105	Fundamentals of Oral Communication	3
Computer Science		
	(3 cr. hrs.)	
CIS-100	Computer Applications	3
Math		
	Choose One (3 cr. hrs.)	
MA-101	Business Math	3
MA-110	Intermediate Algebra	3
MA-111	College Algebra	3
Social Sciences		
	(3 cr. hrs.)	
SS-100	General Psychology	3
Electives		
	Choose One (3 cr. Hrs.)	
SOC-135	Introduction to Sociology (or)	3
SS-105	Human Growth & Development (or)	3
BMGT-108	Business Management/Entrepreneurship	3
	TOTAL	18
	Total Credit Hours	70

Electronic Engineering Technology

Beloit Campus

The Electronic Engineering Technology Program provides students the opportunity to receive intensive training in AC/DC electronics, analog electronics, digital and microprocessor systems, home theater and audio/video, programmable logic controllers, avionics and two way wireless communications, electric car technology, networking and microcomputer systems. Laboratory projects and live work aid in emphasizing theoretical material presented in lecture session, films and field trips. Internships and employer scholarships are available. Completion of this program prepares one for a career in areas such as, wireless communication equipment repair, electronic test equipment repair and calibration, home theater and audio/video equipment repair, electronic avionics equipment repair, automotive electronics repair, programmable logic controller programming and repair, and personal computer upgrade and repair. Students earn an Associate of Applied Science Degree upon successful completion of the program.

Program Outcomes

- Analyze DC, AC and Semiconductor circuits by applying Ohm's Law and network theorems.
- Operate and make measurements with electronic test equipment.
- Analyze, troubleshoot and maintain instrumentation systems and control systems.
- Analyze and troubleshoot electrical and electronic circuits and systems.
- Utilize computer skills to develop, operate, interface and maintain electronic equipment safely and within industrial settings.
- Acquire the CET (Certified Electronics Technician), and/or the FCC (Federal Communications Commission) Certificate.

Course Code	Course Title	Credits
FIRST SEMESTER:		
EET-100	OSHA Safety	1
EET-102A	DC Electronics I	2
EET-102B	DC Electronics II	2
EET-103A	AC Electronics I	2
EET-103B	AC Electronics II	2
EET-104	Analog I	4
	TOTAL	13
SECOND SEMESTER:		
EET-101	Soldering & Printed Circuit Design	2
EET-105	Analog II	4
EET-106	Electronic Test Equipment	1
EET-108	Audio Video Systems	2
EET-111	Digital Circuits I	3
EET-112	Digital Circuits II	2
	TOTAL	14
THIRD SEMESTER:		
EET-206	Electronics Communications Equip. & Systems	3
EET-207	Wireless Communications	2
EET-217	CET, FCC & A+ Study	1
EET-222A	Microprocessors I	2
EET-222B	Microprocessors II	1
ACIT-101	Operating Systems	3
EET-240A	Shop Practicum	2
	TOTAL	14
FOURTH SEMESTER:		
EET-223	Programmable Controllers	4
EET-235	PC Servicing & Upgrade	2
EET-209	Internship	6
	or	
	Specialization*	6
	TOTAL	12
	INTERNSHIP OPTION	12

Electronic Engineering Technology (Cont.)

*OPTIONS: Choose area for specialization

Consumer Electronics Technician

EET-220	High Definition Color Television Systems	3
EET-240B	Shop Practicum	3
	TOTAL	6

Avionics/Communication Technician

EET-221	Two-Way Radio Systems	3
EET-240B	Shop Practicum	3
	TOTAL	6

Information Technology Specialist

EET-237	Microcomputer Networking	3
EET-240B	Shop Practicum	3
	TOTAL	6

Maintenance Technician

EET-224	Advanced Programmable Controllers	3
EET-240B	Shop Practicum	3
	TOTAL	6

Course Code	Course Title	Credits
<i>GENERAL EDUCATION</i>		
Communications (6 cr. hrs.)		
COM-103	English Composition I	3
COM-105	Fundamentals of Oral Communication	3
Computer Science (3 cr. hrs.)		
CIS-100	Computer Applications (or)	3
CIS-108	Advanced Computer Applications (recommended)	3
Math (Choose One (3 cr. hrs.))		
MA-101	Business Math	3
MA-110	Intermediate Algebra	3
MA-111	College Algebra	3
Social Sciences (3 cr. hrs.)		
SS-100	General Psychology	3
Electives (Choose One (3 cr. Hrs.))		
SOC-135	Introduction to Sociology (or)	3
SS-105	Human Growth & Development (or)	3
BMGT-108	Business Management/Entrepreneurship	3
	TOTAL	18
	Total Credit Hours	71
	Total Credit Hours/Internship Option	71

General Business
Hays Campus

The **General Business Program** provides the necessary business technology and interpersonal skills to succeed in the job market. Students receive training in the latest business software applications, marketing, advertising, merchandising, and computerized and financial accounting. Options available to the students include an Associate of Applied Science Degree, or Business Technology and Business Management certificates.

Program Outcomes

- Possess the knowledge and skills to perform entry-level employment in the business field.
- Apply the theory of technical specialization to specific jobs using critical thinking/reasoning and the ability to work independently.
- Use mathematical data and reasoning skills in relation to employment in a business setting.
- Use effective communication skills appropriate to the business field.
- Demonstrate appropriate human relations skills that contribute to an effective job performance.
- Demonstrate managerial and leadership techniques.
- Exhibit professional etiquette.
- Possess the capacity to think for ones' self and make wise decisions.

Course Code	Course Title	Credits
FIRST SEMESTER:		
BT-101	Computer Operating Systems	3
BT-103/*215	Financial Accounting I or III	3
BT-104	Word Processing Applications	3
BT-108	Spreadsheet Applications	3
	TOTAL	12
 SECOND SEMESTER:		
BT-100/200	Introduction to Business I or II	3
BT-106	Desktop Publishing	3
BT-109	Database Applications	3
BT-110	Multimedia Applications	3
BT-113/*210	Computerized Accounting I or II	3
	TOTAL	15
 THIRD SEMESTER:		
BMGT-102	Visual Merchandising	3
BMGT-105A	Internship	3
BMGT-108	Business Management/Entrepreneurship	3
BMGT-109	Business Law Concepts	3
BT-103/215	Financial Accounting I or III	3
	TOTAL	15
 FOURTH SEMESTER:		
BMGT-104	Intro to Marketing	3
BMGT-105B	Internship	1
BMGT-107	Financial Accounting II	3
BT-100/200	Introduction to Business I or II	3
BT-113	Computerized Accounting	3
*BT-210	or *Computerized Accounting II	3
	TOTAL	13

*BT courses numbers starting with 200 are for 2nd year students only.

General Business (Cont.)

Course Code	Course Title	Credits
<i>GENERAL EDUCATION</i>		
Communications	(6 cr. hrs.)	
COM-103	English Composition I	3
COM-105	Fundamentals of Oral Communication	3
Computer Science	(3 cr. hrs.)	
CIS-100	Computer Applications	3
Math	Choose One (3 cr. hrs.)	
MA-101	Business Math	3
MA-110	Intermediate Algebra	3
MA-111	College Algebra	3
Social Sciences	(3 cr. hrs.)	
SS-100	General Psychology	3
Electives	Choose One (3 cr. Hrs.)	
SOC-135	Introduction to Sociology (or)	3
SS-105	Human Growth & Development	3
	TOTAL	18
	Total Credit Hours	73

***General Business Associate Degree program consists of the combination of Business Management and Business Technology programs. Students have the option of choosing the order of study.**

Information Technology
Beloit Campus

The Information Technology Program provides training in network administration, web page design, PC Maintenance, intranet and Internet operations, diagnosing and troubleshooting computer problems and software applications. Students will build and maintain a computer network system. Courses prepare the student for various certifications including the A+, Network+ and Microsoft Certified Application Specialist. Students have the option of an Information Technology Certificate or an Associate of Applied Science Degree after successfully completing the program of instruction.

Program Outcomes

- Develop entry-level computer technology skills used in employment.
- Model Computer Construction, Maintenance and Troubleshooting.
- Facilitate Network Technologies.
- Generate Software and Application Programs.
- Model Desktop Publishing Software.
- Design Web Media and Web Programming.

Course Code	Course Title	Credits
FIRST SEMESTER:		
ACIT-100 or	Computer Concepts	2
ACIT-103	Applied Computer Concepts	2
ACIT-101	Operating Systems	3
ACIT-104	Internet Applications	2
ACIT-105	Help Desk	1
ACIT 110	Advanced Word/Excel	2
TNT-140	Computer Networks I	3
	TOTAL	13
SECOND SEMESTER:		
ACIT-106	PC Servicing & Upgrade	4
ACIT-109	Website Development I	3
ACIT-203	Programming I	3
TNT-230	Computer Networks II	3
	TOTAL	13
THIRD SEMESTER:		
ACIT-200	Presentation Graphics	2
ACIT-201	Website Development II	3
ACIT-202	Wireless Communications	3
ACIT 210	Video Applications	2
EET-222A	Microprocessors I	2
	TOTAL	12
FOURTH SEMESTER:		
ACIT-204	Database Applications	2
ACIT-205	Multimedia Applications	2
ACIT-206	Programming II	3
ACIT-207	Desktop Publishing	2
ACIT-208	Computer Security	2
ACIT-209	Essentials of Project Management	2
	TOTAL	13

Information Technology (Cont.)

Course Code	Course Title	Credits
<i>GENERAL EDUCATION</i>		
Communications	(6 cr. hrs.)	
COM-103	English Composition I	3
COM-105	Fundamentals of Oral Communication	3
Computer Science	(3 cr. hrs.)	
CIS-108	Advanced Computer Applications	3
Math	Choose One (3 cr. hrs.)	
MA-101	Business Math	3
MA-110	Intermediate Algebra	3
MA-111	College Algebra	3
Social Sciences	(3 cr. hrs.)	
SS-100	General Psychology	3
Electives	Choose One (3 cr. Hrs.)	
SOC-135	Introduction to Sociology (or)	3
SS-105	Human Growth & Development (or)	3
BMGT-108	Business Management/Entrepreneurship	3
	TOTAL	18
	Total Credit Hours	69

Nursing
Hays Campus

The Associate of Applied Science Degree in Nursing Program is a full-time, multiple entry/exit, 18-month program leading to an Associate of Applied Science Degree in Nursing. The student will receive education to perform nursing interventions with precision and efficiency consistent with current concepts and evidence based practices. Professionals in the nursing field teach nursing theory in the classroom. Under professional supervision, students obtain extensive clinical experience through hands-on experiential training. Successful completion of the first year will prepare the student for licensure through the National Council Licensure Examination (NCLEX-PN®). Successful completion of the second year will prepare the student for licensure through the National Council Licensure Examination (NCLEX-RN®).

Program Outcomes

- Adapt through the use of the nursing process the ability to think critically and make safe and effective clinical judgments incorporating evidenced-based practice.
- Integrate caring behaviors in practicing the art and science of nursing within a diverse population.
- Demonstrate effective communication methods to manage client needs and to interact with other health care team members.
- Collaborate with clients and members of the interdisciplinary health care team to optimize client outcomes.
- Implement professional standards and scope of practice within legal, ethical, and regulatory frameworks.
- Manage care and provide leadership to meet client needs using available resources and current technology.
- Generate teaching and learning processes to promote and maintain health and to reduce risks for a variety of clients.

Course Code	Course Title	Credits
FIRST SEMESTER		
NUR-101	Foundations of Nursing	3
NUR-102	Foundations of Nursing Lab	1
NUR-104	Medical/Surgical Nursing Across the Life Span I	4
NUR-106	Medical/Surgical Nursing Across the Life Span Clinical	2
NUR-107	Basic Pharmacology	1
NUR-108	Math Calculations	1
	TOTAL	12
SECOND SEMESTER		
NUR-110	Medical/Surgical Nursing Across the Life Span II	4
NUR-111	Medical/Surgical Nursing Across the Life Span II Clinical	4
NUR-112	Maternal Child Nursing	1
NUR-113	Gerontology Nursing	1
NUR-114	Mental Health Nursing	1
NUR-115	Socialization into Practical Nursing	1
	TOTAL	12
THIRD SEMESTER		
NUR-201	Professional Nursing Role Transitions	1
NUR-203	Perspectives of Health Assessment & IV Therapy	1
NUR-204	Advanced Medical/Surgical Nursing Across the Life Span I	2
NUR-205	Advanced Medical/Surgical Nursing Across the Life Span II	3
NUR-206	Advanced Medical/Surgical Nursing Across the Life Span III Clinical	3
NUR-207	Advanced Pharmacology	1
NUR-209 (Elective)	Perspectives in Oncology Nursing	1
NUR-218 (Elective)	Pathophysiology for the Nursing Student	4
	TOTAL	11

Nursing (Cont.)

FOURTH SEMESTER

NUR-210	Advanced Medical/Surgical Nursing Across the Life Span III	2
NUR-211	Advanced Medical/Surgical Nursing Across the Life Span IV Clinical	3
NUR-212	Advanced Maternal Child Nursing	2
NUR-213 (Elective)	Advanced Gerontology Nursing	1*
NUR-214	Advanced Mental Health Nursing	2
NUR-215	Leadership for Professional Nursing Practice	1
NUR-216 (Elective)	Perspectives in Critical Care Nursing	1*
	TOTAL	10

GENERAL EDUCATION

First Year		
BIOL-230	Human Anatomy & Physiology w/Lab	5
HE-230	Principles of Nutrition	3
MA-110	Intermediate or College Algebra	3
SS-100	General Psychology	3
SS-105	Human Growth & Development	3
	TOTAL	17
Second Year		
BIOL-225	Microbiology & Lab	5
CIS-100	Computer Applications	3
COM-105	Fundamentals of Oral Communication	3
COM-103	English Composition	3
	TOTAL	14
	Total Credit Hours	76

Pharmacy Technician Hays Campus

The Pharmacy Technician Program is designed for both traditional and non-traditional students. The program provides students with the fundamental knowledge, skills and training necessary to become a valued member of the industry. Students will receive training in pharmaceutical calculations, institutional and community-based pharmacy practice, operations and management, IV and sterile product preparation, and chemical/physical pharmacy and lab. Internships with employers are available. Upon successful completion of the program, students will be awarded an Associate of Applied Science Degree, will be registered as a Pharmacy Technician by the Kansas State Board of Pharmacy, and will be eligible to take the National Pharmacy Technician Certificate Examination. This program is nationally accredited by the American Society of Health-System Pharmacists®.

Program Outcomes

- Apply the federal, state, and local laws; regulations and professional standards to pharmacy practice.
- Demonstrate proficiency in performing Pharmacy Technician skills.
- Analyze the role of the Pharmacy Technician in distributive pharmacy.
- Demonstrate knowledge of human anatomy and physiology and pharmacology.
- Demonstrate ethical and professional conduct in all job-related activities.
- Design and relate messages for effective and appropriate oral and written communication.

Course Code	Course Title	Credits
FIRST SEMESTER:		
PHRM-101	Orientation to Pharmacy Practice	3
PHRM-102	Pharmaceutical Calculations	3
PHRM-111	Pharmacy Operations	3
PHRM-125	Pharmacology for Pharmacy Technicians I	3
	TOTAL	12

SECOND SEMESTER:		
PHRM-108	Pharmacy Technician Seminar	1
PHRM-105	Pharmacy Technician Internship I	4
PHRM-207	Advanced Pharmacy Operations w/Lab	3
	TOTAL	8

THIRD SEMESTER:		
PHRM-225	Pharmacology for Pharmacy Technicians II	3
	TOTAL	3

FOURTH SEMESTER:		
PHRM-205	Pharmacy Technician Internship II	4
PHRM-206	Pharmacy Computer Applications	1
PHRM-208	Pharmacy Technician Topics	3
	TOTAL	8

Course Code	Course Title	Credits
GENERAL EDUCATION:		
BIOL-121	Human Biology w/lab	4
BMGT-108	Business Management/Entrepreneurship	3
CHEM-100	The Chemist's View of the World	4
CIS-100	Computer Applications	3
COM-103	English Composition I	3
COM-105	Fundamentals of Oral Communication	3
COM-210	Medical Terminology	3
	Choose One Math Class:	
MA-110	Intermediate Algebra (or)	3
MA-111	College Algebra	3
SOC-135	Introduction to Sociology	3
SS-100	General Psychology	3
	*Elective Approved by Advisor	3
	TOTAL	35
	Total Credit Hours	66

Technical Studies

Beloit & Hays Campuses

The Associate of Applied Science in Technical Studies degree enables a student to design an individualized program of study to fulfill a unique career goal that cannot be met through the completion of any single technology program offered by the College. Students completing this degree must complete a minimum of 15 credit hours from at least two technical disciplines that will combine into a joint technical program with a technical focus directly related to the student's career objective. Students wishing to complete the A.A.S. degree in Technical Studies will develop an individualized course of study through a structured advising process with faculty and college counselors. This credential provides a means to meet the needs of students pursuing an emerging occupation and/or employers seeking skill sets in graduates from multiple technical disciplines.

Program Outcomes

The following objectives will be met in a minimum of two technical disciplines:

- Apply multi-disciplinary knowledge to a variety of applications
- Learn how to quickly identify, analyze, and solve technical problems
- Productively use available tools
- Communicate well verbally, graphically, and in writing
- Formulate and apply critical thinking skills to troubleshoot systems
- Communicate and function effectively in teams
- Demonstrate knowledge of the fundamental safety behaviors and safety equipment
- Demonstrate the technical skills applicable to each one of the two technical disciplines

NCKTC Requirements for an AAS in Technical Studies

Satisfaction of the Kansas Board of Regents minimum requirements for AAS in Technical Studies
 Satisfaction of NCKTC Graduation Requirements (including minimum of 18 General Education credit hours)
 Evidence the combined skillset proposed has potential to lead to desired career objective
 Pre-approved degree plan filed with Registrar's Office
 Continued and regular consultation with advisor and faculty to ensure appropriate coursework is being taken to achieve the approved degree plan and career objective

Course Code	Course Title	Credits
<i>TECHNICAL EDUCATION</i>		
	Approved coursework from one selected technical program	*at least 15
	Approved coursework from second selected technical program	*at least 15
	Approved coursework from any additional selected technical programs	*at least 15

**In most cases, the required technical education hours will exceed 15 credit hours; this is a minimum. The required hours will be determined based upon the programs selected and the skillset desired to meet the individual's career objective. The degree plan must be approved by the advisor, faculty, Registrar, and Dean of Instructional Services.*

GENERAL EDUCATION

Communications	(6 cr. hrs.)	
COM-103	English Composition I	3
COM-105	Fundamentals of Oral Communication	3
Computer Science	(3 cr. hrs.)	
CIS-100	Computer Applications	3
Math	Choose One (3 cr. hrs.)	
MA-101	Business Math	3
MA-110	Intermediate Algebra	3
MA-111	College Algebra	3
Social Sciences	(3 cr. hrs.)	
SS-100	General Psychology	3
Electives	Choose One (3 cr. Hrs.)	
SOC-135	Introduction to Sociology (or)	3
SS-105	Human Growth & Development (or)	3
BMGT-108	Business Management/Entrepreneurship	3
	TOTAL	18
	Total Credit Hours	60-68

Telecommunications and Network Technology

Beloit Campus

The Telecommunications and Network Technology Program is designed to provide students with the necessary technical knowledge and skills in digital, wireless communications to become successful employees. Students will receive training in telecommunications circuits and devices, digital logic, telecommunications cabling, computer data networks, LAN/WAN design, fiber-optics theory and applications, wireless communications, VoIP telephone, and Class 5 central office applications. Upon successful completion of the program, students will be awarded an Associate of Applied Science Degree.

Program Outcomes

- Demonstrate a strong understanding of computer networking concepts.
- Demonstrate knowledge of telecommunications and network hazards and related safety practices.
- Use effective communication skills appropriate to the telecommunication field.
- Demonstrate a strong understanding of digital switching infrastructure and networking.
- Demonstrate the ability to install and manage communication copper cabling infrastructure.
- Demonstrate the ability to install and manage fiber optic cabling infrastructure.

Course Code	Course Title	Credits
FIRST SEMESTER:		
EET-102A	DC Electronics I	2
EET-103A	AC Electronics I	2
TNT-130	Telecommunications Cabling	2
TNT-140	Computer Networks I	3
TNT-170	Survey in Telecommunications	3
	TOTAL	12
SECOND SEMESTER:		
TNT-111	Digital Circuits for Telecommunications	4
TNT-160	Introduction to Telecommunication Networks	5
TNT-230	Computer Networks II	3
	TOTAL	12
THIRD SEMESTER:		
ACIT-202	Wireless Communications	3
TNT-150	Switching & Routing Protocols	5
TNT-210	Telecommunications Digital Switching Systems	3
TNT-220	Fiber Optics & Other Transmission Methods	3
	TOTAL	14
FOURTH SEMESTER:		
ACIT-208	Computer Security	2
TNT-250	LAN/WAN Design	4
TNT-260	Advanced Telecommunications Networks	4
TNT-270	LAN/WAN Troubleshooting Fundamentals	4
	TOTAL	14
OPTIONAL:		
TNT-200	Internship (Optional)	4
UNDERGROUND TECHNOLOGY: (Offered Year Around)		
HE-120	Locator Operations-Level I	1
HE-125	Horizontal Directional Drilling-Level I	2
	TOTAL	3

Telecommunications and Network Technology (Cont.)

Course Code	Course Title	Credits
<i>GENERAL EDUCATION</i>		
Communications (6 cr. hrs.)		
COM-103	English Composition I	3
COM-105	Fundamentals of Oral Communication	3
Computer Science (3 cr. hrs.)		
CIS-100	Computer Applications (or)	3
CIS-108	Advanced Computer Applications (recommended)	3
Math (Choose One (3 cr. hrs.))		
MA-101	Business Math	3
MA-110	Intermediate Algebra	3
MA-111	College Algebra	3
Social Sciences (3 cr. hrs.)		
SS-100	General Psychology	3
Electives (Choose One (3 cr. Hrs.))		
SOC-135	Introduction to Sociology (or)	3
SS-105	Human Growth & Development (or)	3
BMGT-108	Business Management/Entrepreneurship	3
TOTAL		18
Total Credit Hours		73
Total Credit Hours with Internship Option		77

Welding Engineering Technology/Technician

*in Alignment with Fort Hays State University
Hays NCKTC and FHSU Campuses*

This program prepares individuals to apply basic engineering principles and technical skills to the design and engineering of welding and joining systems and the implementation of welding processes. It includes instruction in materials science; computer-aided design; welding design; welding processes; welding metallurgy; machining processes; automation; and codes, inspection, quality assurance and testing.

This degree allows graduates of NCKTC's 9-month Welding Technology program (offered in Beloit and Hays) to expand into a second-year AAS degree program. Students combine 18 credit hours of the prescribed technical coursework through Fort Hays State University's Industrial Technology Studies Program with 9 additional general education credits from NCKTC to fulfill the requirements for the AAS degree in Welding Engineering Technology/Technician awarded by NCKTC.

1-Year Certificate	39 Credit Hours
Associate of Applied Science	27 Credit Hours
TOTAL	68 Credit Hours

Associate of Applied Science First Semester: Courses taken through FHSU

TECS-130 Production Systems This course is a study of how people produce the necessary products for survival, work, and pleasure in a competitive, technological and global society.	3
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TECS-180 Production Systems This course is designed to acquaint students with the materials and processes utilized in the production of usable goods both in the construction and manufacturing industries.	3
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TECS-318 Production Systems The purpose of this course is to provide students with an understanding of the features associated with the operation of a CAD system. This course is designed to help drafting students develop the knowledge, skills, and attitudes required to begin work at the job entry level in such positions as: CAD technician trainee, CAD system operator, or CAD technician. The course is designed for students who have received in-depth training in one or more application areas, such as architectural, mechanical, drafting, civil, etc. Requisites: PR, six hours of drafting or equivalent.	3
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Associate of Applied Science Second Semester: Courses taken through FHSU

TECS-200 Engineering Graphics This course is designed to introduce the student to the fundamentals of engineering drafting. Laboratory experiences include: orthographic sketching and drawing, sections, auxiliary views, dimensioning, tolerances, threaded fasteners, computer aided drafting and manufacturing, detail & assembly drawings. Requisites: PR, TECS 110 or equivalent.	3
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TECS-331 Machine Tool Operations Machine Tool Operations is the development of advanced machining skills through the use of standard machine tools, layout procedures, measuring instruments, inspection techniques, and process planning. The class provides the ultimate experience with standard machine tools, and includes the usual process experienced at the lathe, mill, and the assembly procedures necessary to produce a functional product. The product, when completed, will be accompanied by a typed, detailed, plan of procedure.	3
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TECS-430 Computer Aided Manufacturing This course deals with the operation and programming of machines which are controlled by a computer. This course develops entry level skills and provides the theory of computer numerical control (CNC).	3
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Welding Engineering Technology/Technician (cont.)

**Associate of Applied Science
General Education: Courses taken through NCKTC**

Course Code	Course Title	Credits
<i>GENERAL EDUCATION</i>		
Communications		
	(6 cr. hrs.)	
COM-103	English Composition I	3
COM-105	Fundamentals of Oral Communication	3
Computer Science		
	(3 cr. hrs.)	
CIS-100	Computer Applications	3
Math		
	Choose One (3 cr. hrs.)	
MA-101	Business Math	3
MA-110	Intermediate Algebra	3
MA-111	College Algebra	3
Social Sciences		
	(3 cr. hrs.)	
SS-100	General Psychology	3
Electives		
	Choose One (3 cr. Hrs.)	
SOC-135	Introduction to Sociology (or)	3
SS-105	Human Growth & Development (or)	3
BMGT-108	Business Management/Entrepreneurship	3
	TOTAL	18

COURSE DESCRIPTIONS

<u>Course</u>	<u>Credits</u>
ACIT-100 Computer Concepts This course is an introduction to computer technology, history of the computer industry, and its effect on society. Students will discover the components of a system and how they interact, how software controls the hardware and the latest application software. Basic terminology and designs of Local Area Networks (LAN) will also be featured.	2
ACIT-101 Operating Systems This course introduces the students to the features and maintenance of Windows. Topics include operating systems fundamentals, installation, configuration and upgrading, and diagnosing and troubleshooting. Networking capabilities will also be discussed.	3
ACIT-103 Applied Computer Concepts Students will be introduced to computer maintenance; operating systems installation and maintenance; networking concepts: design, wiring, installation; server installation; security basics; web design and server maintenance; and programming basics. Students will complete several group projects to show skills learned during class.	2
ACIT-104 Internet Applications This class shows the student the many useful ways the Internet can be used. Different browsers, FTP, e-mail and Internet search engines will be demonstrated. HTML programming will also be introduced.	2
ACIT-105 Help Desk This class will allow students to answer computer questions using the telephone or e-mail. Customer service skills including technical writing, listening and communication skills, handling difficult customers situations and solving and preventing problems will be discussed.	1
ACIT-106 PC Servicing & Upgrade Introduction to various hardware and software aspects of a microcomputer system including power supplies, microprocessors, input/output configurations, hard drives, modems, sound cards, video cards and mother boards.	4
ACIT-109 Website Development I This class offers an extensive discussion of web page creation and design using web authoring software. Students will create a personal home page and post it on the web server. Pages will include tables, forms, and frames.	3
ACIT-110 Advanced Word/Excel This course offers advanced theories and operation of Microsoft Word Processing and Spreadsheet Software. The student will learn how to perform commands used to create, modify and manage documents.	2
ACIT-200 Presentation Graphics This course introduces the student to the latest graphics packages used in business and industry. Also covered is the creation, manipulation, and presentation of computer art, charts, graphics, graphs, layout and publications.	2
ACIT-201 Website Development II This class offers an extensive overview of web page creation and design using HTML and JAVA with ASCII and WYSIWYG editors. The student will integrate data objects and multimedia elements into web designs. Pre-requisite: ACIT 109, ACIT 203	3
ACIT-202 Wireless Communications This course introduces the basic fundamentals of Wireless Local Area Networks. The course defines the different channel spectrums and the advantages to each. It then develops into the design and security of wireless local area networks from the home network through wireless LAN technology. Antenna wave lengths and patterns are	3

discussed in detail. Upon completion of this course the student will be able to design and configure wireless LAN's from a home environment to a campus wide wireless LAN, as well as troubleshoot connectivity problems.

Pre-requisite: TNT 140 and TNT 230

ACIT-203 3

Programming I

This class offers an introduction to basic programming using Visual Basic programming language. The student will learn program development, testing, debugging and documentation.

ACIT-204 2

Database Applications

Introductory course in compiling and manipulating collections of related data for immediate information retrieval and update. Investigation of hierarchical and relational databases. Design and manipulation including sorting, selection and printing reports, lists and mailing labels.

ACIT-205 2

Multimedia Applications

This course covers the most up-to-date software, trends and issues in multimedia on the computer. Focus is on the ever increasing incorporation of multimedia elements in business and computers. The student will receive hands-on experience in creating and presenting multimedia on the computer and also learn hardware and software issues related to multimedia and its use in the business computer world.

ACIT-206 3

Programming II

This course is a continuation of ACIT 203 and will cover additional programming languages such as Visual C# or C++. Students will continue to develop more in-depth programs from ACIT 203.

Pre-requisite: ACIT 203

ACIT-207 2

Desktop Publishing

This class will allow students to design and create publications using desktop publishing software. The student will learn how to lay out a publication which includes text and graphics. Other topics include design, working with text, use of fonts and design effects.

ACIT-208 2

Computer Security

This course introduces the fundamentals of computer security, beginning at the home desktop and progressing through a large Local Area Network with multiple nodes. The student will learn basic theory of virus protection and delve deeply into the theories of intrusion detection and securing both the physical premise equipment as well as the network and the information stored within it. The student upon completion will be able to demonstrate proficiency in hardware and software security devices.

Pre-requisite: TNT 140, TNT 230

ACIT-209 2

Essentials of Project Management

This course applies the nine areas of project management: project integration, scope, time, cost, quality, human resource, communications, risk and procurement management as well as the five process groups: initiating, planning, executing, controlling, and closing to information technology projects. Project Management 2007 software will be utilized to develop these projects.

ACIT-210 2

Video Applications

This class shows the student how to create, edit and publish, short video segments which can be used in training employees and users how to use their technology. Students will use low cost equipment to record the videos. Then learn how to use basic editing software such as Microsoft Movie Maker or other appropriate software to enhance the videos. Finally, they will complete their projects by learning how to host or post their information to appropriate services.

ACRT-111 4

Non-Structural Analysis and Damage Repair I

Through a variety of classroom and/or shop/lab learning and assessment activities, students in this course will: explore the components of safety pertaining to auto collision and repair; explore the parts and construction of vehicles; explore opportunities in the auto collision industry; identify metal straightening techniques; identify the

application and use of body fillers; demonstrate proper use, set-up and storage of welding equipment; distinguish between weldable and non-weldable materials; demonstrate fundamental industry standard recommended welds; identify plastics and adhesives used in automotive industry; explain the general purpose of damage, estimation and repair orders; explore the processes required for outer body panel repairs, replacements and adjustments; and demonstrate fundamental cutting procedures.

ACRT-112 **3**
Painting & Refinishing I

Through a variety of classroom and/or shop/lab learning and assessment activities, students in this course will: identify safety and personal health hazards according to OSHA guidelines and the "Right to Know" law; determine the different types of substrates and sanding materials relevant to autobody surface preparation; identify the process to clean and prepare a substrate for paint; distinguish between the properties, uses and manufacturer specifications of metal treatments and primers; distinguish among the various types of spray guns and equipment; explore various paint codes and specifications for use; Identify the various paint systems; explore the types of paint defects; distinguish between damage and non-damage related corrosion; and identify final detail procedures.

ACRT-113 **2**
Structural Analysis & Damage Repair I

Through a variety of classroom and/or lab/shop learning and assessment activities, students in this course will: identify measuring procedures; analyze the basic structural damage conditions; identify the safety requirements pertaining to structural damage repair; analyze frame repair methods; analyze unibody inspection and measurement and identify procedures of welding for structural repair.

ACRT-114 **3**
Mechanical & Electrical I

Through classroom and/or lab/shop learning and assessment activities, in this course students will: determine how to diagnose steering and suspension; diagnose electrical concerns; complete headlamp and fog/driving lamp assemblies and repairs; demonstrate self-grounding procedures for handling electronic components; determine diagnosis, inspection and service needs for brake system hydraulic components; examine components of heating and air conditioning systems; determine the inspection, service and repair needs for collision damaged cooling system components; distinguish between the under car components and systems; and determine the diagnosis, inspection and service requirements of active and passive restraint systems.

ACRT-115 **4**
Non-Structural Analysis & Damage Repair II

Through a variety of classroom and/or lab/shop learning and assessment activities, students in this course will: identify trim and hardware to be protected; examine what to consider when working with movable glass; perform outer body panel repairs; perform outer body replacements and adjustments; perform metal straightening techniques; perform body filling techniques; perform metal finishing techniques; use welding procedures in non-structural damage repair; distinguish between mechanical and electrical components; apply safety standards for the collision repair industry; use cutting procedures in non-structural damage repair; and determine procedures necessary for working with plastics and adhesives.

ACRT-116 **3**
Painting & Refinishing II

Through a variety of classroom and/or shop/lab learning and assessment activities, students in this course will: select proper personal protective equipment; perform proper shop operations according to OSHA Guidelines; remove paint coatings; apply corrosion resistant coatings; demonstrate proper spray gun operation and cleaning procedures; select proper painting and substrate materials for projects; analyze paint defects, causes and cures; repair paint defects; measure paint mil thickness; and determine final detail procedures for given projects.

ACRT-117 **2**
Structural Analysis & Damage Repair II

Through a variety of classroom and/or shop/lab learning and assessment activities, students in this course will: apply safety requirements pertaining to structural damage repair; analyze frame inspection and repair procedures; determine direct and indirect damage for structural repair; analyze unibody inspection, measurement, and repair procedures; perform welding techniques for structural repair; and identify cutting procedures for structural repair.

ACRT-118 **3**
Mechanical & Electrical II

Through classroom and/or lab/shop learning and assessment activities, in this course students will: determine how to diagnose steering and suspension; diagnose electrical concerns; complete headlamp and fog/driving lamp assemblies and repairs; demonstrate self-grounding procedures for handling electronic components; determine

diagnosis, inspection and service needs for brake system hydraulic components; examine components of heating and air conditioning systems; determine the inspection, service and repair needs for collision damaged cooling system components; distinguish between the under car components and systems; and determine the diagnosis, inspection and service requirements of active and passive restraint systems.

ACRT-205 **1**
Advanced Estimating

Course in computer estimating including the history and the creation of computer estimates in detail.

ACRT-207 **4**
Non-Structural Analysis & Damage Repair III

Through a variety of classroom and/or lab/shop learning and assessment activities, students in this course will: remove and install trim and hardware; determine process and procedures necessary for movable glass repair; repair outer body panel; replace and adjust outer body panels; remove and install mechanical and electrical components; demonstrate safety protocol appropriate for the auto repair setting; perform intermediate welding skills on non-structural damage repairs; and perform plastic and adhesive repairs.

ACRT-211 **3**
Painting & Refinishing III

Through a variety of learning and/or shop/lab learning and assessment activities, students in this course will: identify safety and personal health hazards according to OSHA guidelines and the "Right to Know" law; determine the different types of substrates and sanding materials relevant to auto body surface preparation; identify the process to clean and prepare a substrate for paint; distinguish between the properties, uses and manufacturer specifications of metal treatments and primers; distinguish among the various types of spray guns and equipment; explore various paint codes and specifications for use; identify the various paint systems; explore the types of paint defects; distinguish between damage and non-damage related corrosion; and identify final detail procedures.

ACRT-212 **3**
Structural Analysis & Damage Repair III

Through a variety of classroom and/or shop learning and assessment activities, students in this course will: apply safety requirements pertaining to structural damage repair; perform welding and cutting techniques for structural repair; diagnose unibody direct and indirect damage; apply unibody inspection and measurement procedures; apply unibody repair procedures; apply frame inspection and measurement procedures; apply frame repair procedures; and remove fixed glass.

ACRT-213 **3**
Mechanical & Electrical III

Through classroom and/or lab/shop learning and assessment activities, in this course students will: determine how to diagnose steering and suspension; diagnose electrical concerns; complete headlamp and fog/driving lamp assemblies and repairs; demonstrate self-grounding procedures for handling electronic components; determine diagnosis, inspection and service needs for brake system hydraulic components; examine components of heating and air conditioning systems; determine the inspection, service and repair needs for collision damaged cooling system components; distinguish between the under car components and systems; and determine the diagnosis, inspection and service requirements of active and passive restraint systems.

ACRT-214 **5**
Non-Structural Analysis & Damage Repair IV

Through a variety of classroom and shop/lab learning and assessment activities, students in this course will: remove trim and hardware; install trim and hardware; repair movable glass; protect adjacent body panels; repair outer body panel; replace outer body panels; adjust outer body panels; replace mechanical and electrical components; demonstrate safety protocol appropriate for the auto repair setting, perform welding skills on non-structural damage repairs; and perform plastic and adhesive repairs.

ACRT-215 **3**
Structural Analysis & Damage Repair IV

Through a variety of classroom and lab/shop learning and assessment activities, students in this course will: apply safety requirements pertaining to structural damage repair; perform advanced welding and cutting techniques for structural repair; perform inspection and measurement of unibody for structural repair; repair unibody direct and indirect damage; perform frame inspection and measurement procedures; repair frame to industry standards; and remove and install fixed glass.

ACRT-216	4
Painting & Refinishing IV	
Through a variety of classroom and/or shop/lab learning and assessment activities, students in this course will: apply exemplary safety procedures in all areas of auto body painting and refinishing; perform proper cleaning procedures for a refinish; prepare adjacent panels for blending; prepare plastic panels for refinishing; protect all non-finished areas of vehicle; operate high and low volume/pressure spray gun operations for painting and refinishing; perform all paint system applications on an automobile; apply appropriate paint color matching and mixing procedures; tint color using formula to achieve a blendable match; explore the causes, effects and correction of buffing-related imperfections; explore the causes, effects and correction of pigment flotation; measure mil thickness; apply decals, transfers, tapes, woodgrains, pinstripes to an automobile; apply buffing and polishing techniques to remove defects; apply cleaning techniques to automobile interior, exterior, glass and body openings; and remove overspray.	
AET-100	2
Introduction to Shop Tools & Equipment/OSHA Safety	
The study of the care and use of hand and power tools and welding equipment used in agricultural equipment service centers. The course will also cover shop planning, organization, and time management. The course will include an introduction to the processes typically utilized in a modern agricultural equipment service center. The student will be introduced to the diagnostic skills which will be applied in advanced courses of study. Applied safety practices, Material Safety Data Sheets and handling hazardous materials will be covered.	
AET-103	2
Introduction to Electricity	
This course will cover the basics of electricity referencing Ohm's law, circuitry and schematics. Course content will include understanding circuit calculations, continuity, resistance, amperage and how voltage affects a circuit. It will include the process in understanding how to use a multimeter and how to interpret multimeter readings. Safety instruction will accompany all units of study.	
AET-104	2
Agribusiness	
A study of professionalism and business ethics, including the importance of a positive attitude and image, both on and off the job will be discussed. Customer service skills as well as customer, employee and employer relations will be covered. Basic day-to-day business procedures will also be taught. Communication and sales skills will be gained.	
AET-105	3
Electrical Systems	
The study of electrical systems found on agricultural equipment; DC and AC generators, alternators, starting circuits, batteries and accessories. Diagnosis and repair of agricultural equipment electrical systems both on the unit and on the bench. Includes testing and overhaul of generators, alternators, regulators, starters, batteries, gauges, switches and their respective circuits. Advanced study and application of electrical circuits and controls found on tractors, combines and other agricultural equipment which also includes test equipment. Applied safety is also covered.	
AET-106	2
Small Engines	
The study of the fundamental principles and theories of the internal combustion engine, both two and four-stroke. Includes practical diagnosis, disassembly and repair of smaller power units using manufacturers' specifications. Internal combustion engine cooling, lubrication, air intake, and exhaust systems are studied. Agricultural power safety is also covered.	
AET-108	2
Hay Equipment	
This course will include the fundamental principles and theories of hay equipment repair and operations. It includes the adjustment and repair of hay equipment. Electronic monitoring systems, operation, diagnosis and repair are also studied.	
AET-109	5
Diesel and Gasoline Engines	
The study of diesel and gasoline power units in tractors and other agricultural implements. Practical experience in diagnosing, disassembling, and repairing agricultural equipment power units. Instruction in the use of manufacturer's specifications and repair manuals as well as methods of agricultural equipment overhaul. Involves performance testing of agricultural power units. Diagnostic testing before and performance testing after repair. This knowledge is then applied to the study of performance principles in modern diesel engines.	

AET-111	5
Hydraulics	
An advanced study of hydraulic components utilized in agricultural equipment. Testing, diagnosis, disassembly and reassembly of components, including pumps, cylinders, valves, and accumulators will be studied. Diagnostic and repair procedures for hydraulic drive systems will be covered. Applied safety is also covered.	
AET-112	2
Internship	
The summer internship is designed to prepare the student for the transition from the classroom to a working environment through employment within the field of study.	
AET-200	3
Set-up and Pre-delivery of Agricultural Equipment	
The concept of this course is to teach students to precisely calibrate and adjust machinery so it is "field" ready. Correctly setting monitors, sensors, pressures, etc. will be topics that will allow students hands-on experience for learning correct procedures. Safety and precision will be addressed.	
AET-201	4
Fuel Systems	
This course will include the advanced study of theories and principles of the diesel fuel injection pump, fuel injection nozzle, fuel injection components and controls. It will include the diagnosis and adjustment of fuel systems utilizing available tools and computer technology. All components involved in fuel systems will be taught for identification and function. Several makes of engines will be introduced to the student for various knowledge areas.	
AET-202	2
Harvesting Equipment	
Study of the fundamental principles and theories of harvesting equipment repair and operations, with emphasis on modern combines. Includes the adjustment and repair of combines and combine headers. Electronic monitoring systems, operation, diagnosis and repair are also studied.	
AET-203	3
Cab/Chassis Electrical	
Advanced study and application of electrical and electronic circuits and controls utilized on tractors, combines and other agricultural equipment. Troubleshooting, diagnosis, and repair of lighting circuit, A/C circuit, wiring, connectors, monitoring, and control systems used on agricultural equipment, including test equipment. Applied safety is also covered.	
AET-204	4
Heating and Air Conditioning	
A study of the basic principles, diagnosis, repair, and service of air conditioning systems found in agricultural equipment, and their component parts and functions. Refrigerant recovery/recycling and retrofit procedures for converting equipment from R-12 to R134A refrigerant will be covered. Students will become certified for A/C service by complying with state and federal laws. Air conditioning safety is also covered.	
AET-205	4
Power Trains	
The study of theories of operations and design of agricultural drive trains, including clutches, standard transmissions, hydraulic assist transmissions, hydrostatic drives, power take offs, braking systems and special drivers. Study of seals and bearings as they are applied to power trains. The diagnosis and repair of problems associated with agricultural equipment power trains will be covered. The practical use of repair manuals and computer assisted resource materials will be included. Hands on training with demonstration units and experience in the repair of agricultural projects will be included. Applied safety in all areas is included.	
AET-208	7
Advanced Agricultural Equipment Technologies	
An advanced study of theories of operation, testing and repair of precision farming tools, including global positioning systems, guidance systems, steering control systems, yield mapping/monitoring, field documentation, map based seeding, and tillage machine controls. Precision seeding and fertilizer, and chemical application equipment will be covered. Chemical application equipment such as self-propelled sprayers will be included as an important part of this course.	

AMT-101	3
Brakes 1	
This course is a thorough and detailed study of brake system theory and functional operation. Principles of hydraulic systems as it applies to brake systems operation. Practical applications of all phases of brake work including complete system service of disc and drum brake systems, parking brake systems, power assist devices and machining of brake disc and rotors.	
AMT-102	3
Automotive Suspension/Steering	
This course is a thorough and detailed study of theory and practical application of wheel balancing and complete suspension alignment. This includes the study of alignment angles, suspension, steering gears, shock and strut assemblies and the basic causes for tire and wheel unbalance. The application of fraction and degrees, ratios and geometry as it applies to alignment.	
AMT-103	3
Electrical 1	
This class will cover basic theory of DC electricity and complete coverage of the battery, charging systems, starting systems and basic circuitry. Practical application of charging systems, starting systems and basic circuit troubleshooting will also be included.	
AMT-104	3
Engine Performance 1	
This class will cover introduction to basic ignition systems. Sub systems would include point ignition, HEI ignition and some computer control ignition systems. Practical application of these systems will be taught.	
AMT-105	3
Engine Performance Fuel Systems	
This course will cover basic fuel system theory. Fuel pumps, low pressure and high pressure systems, carburetion and introduction to fuel injection will be included. Practical application of this class will include shop practices and service procedures for automotive gasoline fuel systems.	
AMT-106	3
Automotive Engine Repair	
This course is a thorough and detailed study of internal combustion engine theory and analysis consisting of all aspects of engine valve trains, crankshafts, bearings and lubrication systems. Precision measuring and evaluation of engine internal components will be done during the practical application.	
AMT-107	3
Automotive Manual Transmission	
This course is a thorough and detailed study of theory and operation for manual transmissions including manual and hydraulic clutch systems, drive train and differential gear assemblies. Practical application of this class will include shop practices and service procedures for clutch, manual transmission, drive train and differential assemblies.	
AMT-108	3
Automotive Automatic Transmission	
This course is a thorough and detailed study of the theory and operation of automatic transmissions and transaxles. Included will be the principal of hydrodynamics, friction materials apply devices, sealing components and final drive assemblies. Practical application of this class will include shop practices and service procedures for automatic transmission overhaul procedures.	
AMT-109	2
Automotive Heating/Air Conditioning	
This course is a thorough and detailed study of basic principles and theory of operation for automotive climate control systems. The study will cover basic heating and air conditioning system operation, component repair and diagnosis including air delivery systems. Practical application includes heating and air conditioning system evaluation and diagnosis of performance.	
AMT-201	6
Electricity & Computers	
This course is a thorough and detailed study of electronic and electrical knowledge necessary to diagnose and service current automobile systems. This course will have emphasis on automotive electrical theory and principles of circuit operation. Introduction to internal computer function and automotive computer systems will be taught in this	

course. Practical application will include digital ohmmeters and digital storage oscilloscopes will be utilized in a lab environment. Student will use scan tools to interface with on board systems for diagnostic evaluation.

AMT-202 **6**

Advanced Fuels

Covers all areas affecting the power, fuel economy, emission output levels and dependability of today's automobiles. Study will include strategy based diagnostics skills used to isolate and simplify complex problems. Student will have the opportunity to learn Ford, General Motors, Daimler Chrysler and Bosch fuel-control systems. Course will also cover advanced ignition systems such as distributorless ignition, coil over plug and coil near plug systems.

AMT-203 **3**

Electronic Automatic Transmission

Course covers both service and complete overhaul procedures for electronic-controlled transmissions. In practical application the course will cover diagnostics for electronic-controlled systems and hydraulic-controlled systems including the use of specialized test equipment, hydraulic and electrical schematics, diagnostic flow charts, diagnostic equipment and procedures used on both front and rear wheel drive vehicles.

AMT-204 **3**

Advanced Suspensions & Safety Systems

This course is a thorough and detailed study of theory and operation for antilock brake systems used on modern cars, trucks and sport utility vehicles. Equipment, safety rules and theory of advanced electronic controlled suspensions are also covered. Introduction to passive restraint systems including inspection, diagnostics and repair of drivers and passenger air bag systems will also be covered.

AMT-205 **3**

OBD II & Multiplex Systems

This course is a thorough and detailed study of basic principles and theory of operation for On Board Diagnostics II. This will cover systems used on all cars and trucks sold in the United States since 1996. This will cover all diagnostic monitors, communication interfacing and drive cycles. This course will also cover the different multiplex computer systems used by current manufacturers.

AMT-208 **3**

Alternative Fuels

This course will cover alternative fuels besides regular gasoline that are used in today's customer vehicles. These fuels will include Diesel fuel injection, E-10, E-85, and B-20 fuels. This course will also include the theory and operation of Hybrid vehicles. The course will break down the Hybrid vehicle components and study individual component operation and repair.

AMT-209 **3**

Internship

Preparation for the transition from the classroom to a working environment through employment within the field of study. Students will use this opportunity to apply learned concepts and skills in practical situations, to acquire knowledge and experience of current techniques, methods and theories in their chosen career. Progress will be monitored and evaluated by the employer supervisor and the NCKTC internship supervisor.

BIOL-121 **4**

Human Biology w/Lab

An introductory course using exploration of principles and processes common to all living systems as a starting point for the study of human structure and function and the interrelationships between humans and the rest of the biosphere. Lectures will be supplemented with laboratory exercises.

BIOL-225 **5**

Microbiology w/Lab

This class is an in depth study of the microbial organisms that affect human health. Lecture will cover the cellular and molecular biology of microbes, as well as give an historical perspective on microbiology. Finally, the students will learn the practical applications of microscopy and microbial identification. To illustrate the concepts discussed in the lecture portion of the class, lectures will be supplemented with laboratory and clinical application exercises and critical thinking case studies. **Prerequisite:** Grade of C or better in BIOL 121 or BIOL 230. Students are not permitted to enroll in Anatomy & Physiology and Microbiology within the same term.

BIOL-230	5
Anatomy and Physiology w/Lab	
This class is an in depth study of human anatomy and physiology. Anatomy is the study of the structure of living organisms from cell structure to organ systems. Physiology is the study of the mechanical and biochemical functions of the body. To illustrate the concepts discussed in the lecture portion of the class, lectures will be supplemented with laboratory exercises including microscopy and dissection. Prerequisite: Grade of C or better in BIOL 121 or CHEM 100, or qualifying examination score.	
BL-101	4
Safety/OSHA/History & Modern Development of Brick	
Covers the development of brick from the Fifth Century BC to the present time. It describes how brick is now used in the modular construction. Also the development of concrete block, clay tile and the use of native stone in construction.	
BL-102	5
Preliminary Consideration in Construction	
Study of safety in scaffolding, hand tools and portable power tools used in masonry construction, trade terms and care of tools for the mason plus human relations skills on the job site.	
BL-104	5
Bonds (Sand, Lime & Cement)	
Introduction and application of the three general types of cement in use today, plus the development and the properties to make the correct cement for the job. Also covers the meaning of bonding, various types of bonds, brick positions and their applications. Study of the five basic bonds and their applications.	
BL-105	3
Types of Walls I	
Introduction and experience building composite walls with brick and block, cavity and reinforced masonry walls, garden-bond walls, veneer walls and bearing walls.	
BL-106	1
Mathematics	
Study of mathematics in relation to brick masonry.	
BL-107	1
Blueprint Reading	
The study of working drawings. Covers most specifications such as line and symbol identifications, dimensions, scales and metrics for masons.	
BL-108	1
Estimating	
Covers reading and understanding of working plans in relation to construction, architect and contractor.	
BL-109	2
Internship	
Preparation for the transition from the classroom to a working environment through employment within the field of study. Students will use this opportunity to apply learned concepts and skills in practical situations, to acquire knowledge and experience of current techniques, methods and theories in their chosen career. Progress will be monitored and evaluated by the employer supervisor and the NCKTC internship supervisor.	
BL-110	4
Types of Walls II	
In-depth continuation of Walls I. Provides experience building composite walls with brick and block, cavity and reinforced masonry walls, garden-bond walls, veneer walls, and bearing walls.	
BL-111	2
Shop Practicum	
Provides time and opportunity for students to work independently and draw upon all previous program instruction to arrive at a satisfactory completed project. Promotes initiative, independent study, and the assumption of responsibility to work without specific instruction.	

BMGT-102	3
Visual Merchandising	
Display techniques, store layout, props, materials and implementation of these in the department store setting are covered. Discussions, exercises, and projects are completed to reinforce the concepts studied.	
BMGT-104	3
Introduction to Marketing	
Sales and marketing work together to improve customer satisfaction and increase profits. This course covers marketing functions such as financing, pricing and distribution. Other areas of study include: selling techniques, retail selling and marketing strategies/concepts. The student will also learn about the importance of meeting customer needs along with distribution and global marketing.	
BMGT-105A	3
Internship	
Students prepare for the transition from the classroom to a working environment through employment within the field of study. Students will use this opportunity to apply learned concepts and skills in practical situations, to acquire knowledge and experience of current techniques, methods and theories in their chosen career. Progress will be monitored and evaluated by the employer supervisor and the NCKTC internship supervisor.	
Prerequisite - Student must be employed before enrolling in this course.	
BMGT-105B	1
Internship	
Students prepare for the transition from the classroom to a working environment through employment within the field of study. Students will use this opportunity to apply learned concepts and skills in practical situations to acquire knowledge and experience of current techniques, methods and theories in their chosen career. Progress will be monitored and evaluated by the employer supervisor and the NCKTC internship supervisor	
Prerequisite – Student must be employed before enrolling in this course.	
BMGT-107	3
Financial Accounting II	
This course is a continuation of Financial Accounting I. Some of the advanced concepts covered include: analyzing, journalizing, and posting transactions using special journals and ledgers; preparing financial statements; and working with payroll and bank records for merchandising businesses. Also covered are the concepts describing how accounting data is accumulated and how the resulting reports and statements are used for decision making.	
Prerequisite - Financial Accounting I	
BMGT-108	3
Business Management/Entrepreneurship	
In this class students study the different forms of business entities, how to begin a business, and operate a business as an entrepreneur or manager. Important areas covered in the setting up and operation of a small business includes: planning, organizing, controlling, strengths and weaknesses, site location, financing, human resources, and promotion. An emphasis will be placed on creating, planning and presenting a business plan for a business that the students may someday begin.	
BMGT-109	3
Business Law Concepts	
This course is designed to provide students with a better understanding of business law with emphasis on business and consumer issues, contracts, sales agreements, partnership agreements, licensing, insurance and liability. Students may observe live court cases involving criminal, civil, and traffic court law.	
BT-100	3
Introduction to Business I	
This course is designed to cover issues relating to the economic environment, how business and consumers operate in the U.S. and global economies. Students will also be introduced to job-related activities which include: resumes, cover letters, applications, and interviews.	
BT-101	3
Computer Operating Systems	
This course provides an introduction to a current version of Windows, which includes performing basic mouse operations, understanding keyboard shortcut notations, launching an application, e-mailing files and sharing folders. Projects include the fundamentals of using Windows, working on a Windows desktop, file and folder management and Windows Explorer. Students will also learn the fundamentals of customizing the computer using the control	

panel, advanced file searching, mastering digital pictures, video, and music. Appendices are included with the book to compare the new features of Windows security, networking, and computer maintenance.

BT-103 **3**
Financial Accounting I

This course is an introduction to business practices and accounting concepts. Some of the concepts covered include steps in the accounting cycle for a sole-proprietorship such as: analyzing, journalizing, and posting transactions; adjusting and closing entries; and preparing financial statements. A mini-practice set will be used to reinforce theory and application.

BT-104 **3**
Word Processing Applications

This course covers theory and operation of word processing systems, which will allow the user to become proficient in word processing tasks needed to create, modify, and manage documents. Advanced features such as merging, outlining, using macros and styles, are also included. A current word processing program is used.

BT-106 **3**
Desktop Publishing

This course is designed to acquaint students with graphic design techniques, principles of page layout and design, and desktop publishing terminology and applications. Students will be taught how to correct and enhance images for use in publications and will gain a better understanding of the capabilities of desktop publishing. Extensive hands-on practice with a desktop publishing software package will assist students in the production of professional publications.

BT-108 **3**
Spreadsheet Applications

This course will provide students with the ability to achieve the skills necessary to create and utilize a spreadsheet. These skills include: navigating within a spreadsheet, entering and editing formulas, using functions and simple macros, creating graphs, and linking two or more spreadsheets. In-class assignments simulate real problems encountered in the workplace.

BT-109 **3**
Database Applications

Using a database program, students will produce printouts of reports, tables and forms. Important features covered include: creating and editing tables, developing forms and queries, and fine-tuning reports for a professional appearance.

BT-110 **3**
Multimedia Applications

This course is designed to provide the student with an understanding of the elements of a multimedia presentation. Students will produce slides/presentations using various techniques such as text, lines, fills, colors, objects, charts, tables, pictures, clipart, and animation slide show effects.

BT-113 **3**
Computerized Accounting

Students utilize a sample company within a popular computerized accounting program to study the different features involved in computerized accounting. Features covered include: basic steps of operating a computerized accounting program; managing revenue and expenses; tracking vendor, customer, and inventory activities; payroll setup and processing; banking functions; job accounting; and time-tracking.

Prerequisite - Financial Accounting I

BT-200 **3**
Introduction to Business II

In this course, students will complete a variety of projects involving current economic issues. The students will also learn about a variety of managerial and leadership techniques. Modules, hands-on activities, current event reports, case studies, role-playing, and reaction papers will be used to enhance learned concepts.

Prerequisite - Introduction to Business I

BT-210 **3**
Computerized Accounting II

This course is a continuation of Computerized Accounting I and will utilize a popular computerized accounting program. Advanced features such as customizing the appearance and default settings of reports, customizing activity windows and invoices, viewing graphs, exporting information into a popular spreadsheet and word processing

program, memorizing transactions, and new company file setup will be presented. Business simulations (sole proprietorship, partnership, corporation, and payroll) are designed to replicate actual workplace assignments.

Prerequisite - Computerized Accounting

BT-215 **3**

Financial Accounting III

This course is designed to give the students an opportunity to reinforce the accounting cycle by using variations in journals, ledgers, and account titles. Students will work independently using realistic source documents to simulate, utilize, expand, and enhance real-life work situations.

Prerequisite - Financial Accounting I

*BT course numbers starting with 200 are for Associate Degree students only.

CA-100 **1**

Sanitation, Safety & Housekeeping

Study of professional standards and practices for proper food handling and environmental infection control in hospitality management. Candidates are prepared for the NRA ServSafe certification examination.

CA-101 **3**

Standard Kitchen Tools & Equipment

After this course, the student will recognize various small wares and large equipment used in commercial kitchens. Along with construction and uses, safety will be stressed.

CA-103 **3**

Food Purchasing & Inventory

A basic history of the culinary and food industry is taught as well as types of food services. Emphasis is placed on supply, marketing trends, ordering and receiving and food storage. Principles of food, beverage and labor costs are studied.

CA-104 **5**

Understanding & Cooking Meats, Fish & Shellfish

Basic cooking methods as they apply to meat, poultry, fish and shellfish are explored with emphasis on understanding of composition, structure, grading, inspection and basic cuts. In addition, the student will prepare and cook meat, poultry, fish and shellfish in various ways.

CA-106 **3**

Recipe Structure & Uses

This course discusses various forms of recipes and their structure in a commercial kitchen. Students will examine techniques for measuring ingredients, portioning, converting recipes and calculating food costs.

CA-107 **5**

Understanding & Cooking Fruits, Vegetables & Starches

Students will understand the factors that influence texture, flavour, color and nutritional changes when cooking fruits, vegetables, and starches. Students will determine the pluses and minuses of frozen, canned and dried when compared to fresh. In-depth study of starches will result in the proper selection, preparation and cooking.

CA-108 **5**

Understanding & Overview of Quality Baking

Students will learn basic methods for producing a wide variety of breads, desserts, and pastries with further discussion of the special techniques involved in the production of pies, cakes, and cookies. Each student will learn about the organization, ingredients, tools and equipment found in a bakeshop.

CC-101 **1**

Basic Drafting

This course covers sketching, multi-view drawing, dimensioning, and working drawings. It also covers proper and efficient use of basic drafting tools and equipment to produce technical drawings. It focuses on applying geometric construction as a problem solving tool in technical drawing.

CC-105 **4**

Cabinetmaking

This course is designed to cover the use and maintenance of hand tools, power tools, hardware, adhesives, types of joints, types of cabinet materials, cabinet hardware, ordering materials and methods of construction. This course also

covers actual construction of all cabinetwork to be placed in residential homes under construction. It includes vanities, china closets, built -in study areas, kitchen cabinets, and other incidental cabinet work in custom homes.

CC-106 **3**
Introductory Craft Skills

Reviews the history of the trade, describes the apprentice program, identifies career opportunities for carpentry and construction workers, and lists the responsibilities and characteristics a worker should possess.

CC-107A **2**
Carpentry Basics

This course deals with the actual construction of a residential home. During the construction, the following units are studied and methods applied: foundation layout, leveling instruments, foundation formwork, floor and wall framing methods, roof framing, covering and exterior finish plus the study of the framing square, building materials and remodeling projects.

CC-107B **2**
Carpentry Basics

This course is a continuation of CC-107A.

CC-108 **4**
Floors, Walls & Ceiling Framing

Covers framing basics as well as the procedures for laying out and constructing a wood floor using common lumber as well as engineered building materials. It also describes the procedures for laying out and framing walls and ceilings, including rough-in door and window openings, constructing corners and partition T's, bracing walls and ceilings, and applying sheathing.

CC-109 **3**
Roof Framing

Describes the various kinds of roofs and contains instructions for laying out rafters for gable roofs, and valley intersections. Coverage includes both stick-built and truss-built roofs.

CC-110 **3**
Windows, Doors & Stairs

Describes the various types of windows, skylights, and exterior doors, and provides instructions for installing weather-stripping and locksets. This course also covers various types of stairs and common building code requirements related to stairs. The module focuses on the techniques for measuring and calculating rise, run, and stairwell openings, laying out stringers, and fabricating basic stairways.

CC-111 **3**
Interior Finish

Covers interior trim work, finish floor covering, ceramic tile setting, interior wall and ceiling finishes, insulation, and special architectural features such as ceiling beams, room dividers and paneling.

CC-112 **1**
Exterior Finish

This course covers the actual installation of siding, exterior trim, cornices and roof trim.

CHEM-100 **4**
The Chemist's View of the World w/Lab

An exploration of the major concepts of the scientific discipline of chemistry. Concepts include the scientific method of inquiry, the structure of matter and the major natural laws. The course utilizes an approach to quantitative reasoning that requires a minimum of mathematical skill. Lecture will be supplemented with laboratory exercises.

CIS-100 **3**
Computer Applications

Students will learn basic computer operations utilizing a windows-based computer. Word processing, spreadsheet, database, and presentation applications skills will be developed through the use of Microsoft Office, and students will learn how to integrate the data produced. Hands-on practice projects will be utilized that will be relevant for home and business use.

CIS-108	3
Advanced Computer Applications	
This course is an in-depth introduction to Microsoft Office. The student will learn the fundamentals of Microsoft Word, Excel, Access, and PowerPoint. Students will be exposed to practical examples of using the computer as a useful tool. Integration of data between the four software programs will be used to show the usefulness of data from one application to the other.	
COM-099	3
Introduction to Composition	
Introduction to Composition is a transition course to prepare students for success in COM103. The course will provide instruction in building effective sentences and paragraphs, short essay construction and general writing skills. Students will gain competency in basic research skills, critical thinking and analytical reading.	
COM-103	3
English Composition I	
English Composition I will examine rhetorical strategies and application of these strategies through writing, emphasizing grammatical correctness, acceptable usage, effective organization and expression of ideas. Critical thinking, argumentation, research and analysis of selected readings are part of the course. Assigned readings, expository writings and a research paper are required. Prerequisite: Grade of C or better in COM099, appropriate ACT/ASSET/Compass scores or permission by the Dean of Instructional Services.	
COM-105	3
Fundamentals of Oral Communication	
An elementary course in the study and practice of the basic principles of speech and interpersonal communication. We examine a variety of speaking situations including workplace speaking, persuasive speaking and special occasion speaking with emphasis on critical thinking, creative and intelligent selection of material, organization and oral presentations.	
COM-210	3
Medical Terminology	
This course introduces students to the terms used in the medical field. The course includes words, anatomical terms, and body systems. It also includes conversion tables and written terminology.	
DM-101	6
Diesel Engines	
Introduction to shop mechanics including a complete study of internal combustion engines, parts identification, parts failure operating principles, overhaul of diesel engines in the truck and heavy equipment in the field, familiarization of shop procedures, areas of specialized repair and preventive maintenance.	
DM-102	6
Hydraulics	
Application of basic principles of applied hydraulics that reference confined fluids. Study of system components and functions, multiplication of work force, safety, performance testing, line hookups, and the identification of hydraulic pump characteristics, as related to basic hydraulic systems.	
DM-103	6
Power Trains	
Basic power trains follows the natural path of diesel torque through clutches, mechanical transmissions, drive trains, differentials and final drive units, finishing with wheels and track applications on diesel powered equipment. Operation and characteristics of each of these components are studied, demonstrated and tested. Components are disassembled, inspected, evaluated, adjusted and rebuilt.	
DM-104	6
Electricity	
A study of the principals of electricity and its use. Operation, diagnostics and repair of 12 and 24 volt starting and charging electrical systems are covered. Storage batteries and practical application of the principals of electricity are referenced as they relate to trucks and heavy equipment. Electricity and an introduction to electronics as management programs are referenced and studied.	
DM-201	5
Truck/Heavy Equipment Repair	
Includes general and special techniques for normal shop operations including the utilization of power tools and measuring tools to repair engines, power-trains, hydraulic and electrical problems. Estimates, shop records and	

manufacturers' service publications are also covered. Explanation of laws regulating hazardous materials and federal motor safety standards. Vehicle inspections, brakes, air application systems, suspension systems and preventive maintenance programs are referenced and studied.

DM-203 **5**

Power Trains/Engine Overhaul

Power trains identifies the application and process of transmitting power through hydraulic assist units and complete power shift units. Characteristics, applications, performance and diagnostic testing are demonstrated and studied to show advantages and disadvantages of these units. Disassembly, identification of parts and their functions along with adjustments are studied and evaluated. During engine overhaul, technicians evaluate the outcomes of diesel engine overhauls. Testing, diagnostic interpretation and logic developments are all a part of this process of engine overhaul. Through the disassembly and inspection process, repair recommendations are made and parts orders are completed to accomplish the task of engine rebuilding.

Pre-requisites: DM 101, DM 103, DM 104

DM-205 **7**

Fuel Systems

Course covers the functions of the governor and its operation between the fuel metering system and diesel engine requirements. Emission control devices, fuel nozzle and injector designs are identified to applications and service needs. Unit and distributor pumps are used to describe the fuel metering principles of port and helix or inlet metering systems. Through disassembly and re-assembly processes, internal parts are identified, evaluated and referenced for future service. Calibration tests are conducted on distributor pumps. Nozzle rebuilding and testing are performed in the lab on hand jerk pumps. Caterpillar, Cummins and Detroit fuel injection systems are studied. Design, operation, performance testing and service adjustments are discussed and evaluated. Diagnostic test equipment is utilized to support these evaluations. Course concludes with the study of computerized electronic engine controls used with diesel engines.

DM-206 **7**

Diagnostics of Engines, Electrical & Hydraulic Systems

Diagnostic test procedures and schematic evaluations are performed on diesel equipment. Electrical, hydraulic, fuel and mechanical diagnostics are interpreted. Review of diesel engine electrical starting and charging systems concludes the course.

Pre-requisites: DM 101, DM 102, DM 103, DM 104

DM-207 **5**

Internship

Preparation for the transition from the classroom to a working environment through employment within the field of study. Students will use this opportunity to apply learned concepts and skills in practical situations, to acquire knowledge and experience of current techniques, methods and theories in their chosen career. Progress will be monitored and evaluated by the employer supervisor and the NCKTC internship supervisor. Time invested during this internship period will result in a reduction of training time in DM-205 Fuel Systems.

DM-208 **2**

Air Conditioning

Advanced air conditioning is a study and practice of servicing the components of air conditioning systems. Diagnostic evaluations, evacuate systems down and repair are practiced. Handling refrigerant products and safety are demonstrated and practiced throughout this course. Retrofitting heavy-duty A/C systems and complying to the service requirements of the Clean Air Act complete this course in driver cab comfort. An optional certification test is offered at the conclusion of unit.

EET-100 **1**

OSHA Safety

The study of safety procedures used with soldering devices and hand tools. Shock hazards, classes of fires, proper eye and ear protection as related to the electronics field are also covered.

EET-101 **2**

Soldering and Printed Circuit Design

The study of soldering techniques and printed circuits including computer aided design, layout, and prototyping of printed circuit boards incorporating both through hole and surface mount technologies. **Prerequisite** EET-100

EET-102A	2
DC Electronics I	
The course is a prerequisite to EET 102B and covers DC theory, voltage, resistance, Ohm's Law, magnetism, and electrical measurements.	
EET-102B	2
DC Electronics II	
The course is an extension of the subjects covered in EET102A and explores more complex ideas and applications. Pre-requisite: EET 102A	
EET-103A	2
AC Electronics I	
This course is a prerequisite to EET-103B and covers the study of AC current; AC measurements; capacitive and inductive circuits; resonant circuits; and transformers. Student must have passed EET102A to enroll in course.	
EET-103B	2
AC Electronics II	
This course is an extension of study to the subjects covered in EET103A and explores more complex ideas and applications. Pre-requisite: EET 103A	
EET-104	4
Analog I	
The study of semiconductor theory as applied to diodes, bipolar transistors, field effect transistors, thyristors, integrated circuits and optoelectronics.	
EET-105	4
Analog II	
The study of power supplies, basic amplifiers, typical amplifier configurations, operational amplifiers, oscillators, pulse circuits, and the introductory theory of AM/FM modulation.	
EET-106	1
Electronic Test Equipment	
Operating theory of test equipment used by electronics technicians and its applications are covered, as well as the study of diagnostic techniques used by electronics technicians.	
EET-108	2
Audio Video Systems	
An introduction to audio and video systems not limited to the study of signals, decibels, analog and digital audio and video equipment both consumer and commercial venue applications including cabling, switching, controlling, and terminating both wireless and closed circuit systems as recognized by the audio/video industry and ICIA.	
EET-111	3
Digital Circuits I	
The course covers the fundamentals of digital devices, logic elements, circuit integration, IC families, Boolean algebra, combinational logic circuits, ladder logic, binary and hexadecimal number systems, binary arithmetic, digital codes, code conversion and data propagation.	
EET-112	2
Digital Circuits II	
The course continues the study of digital circuits with sequential circuits including counters, data registers, analog to digital, and digital to analog conversion, types of data storage and memory technologies, programmable logic arrays, design criteria involving the application of and troubleshooting of digital systems.	
EET-206	3
Electronics Communications Equipment & Systems	
Introduction to transmission lines and connectors, frequency spectrum, antennas, interference, AM and FM transmitters, decibels as it relates to cable loss and antenna gain, and the use of the spectrum analyzer and time domain reflectometer to troubleshoot.	

EET-207	2
Wireless Communications	
This course covers extensive study and analysis of schematics and theory of AM-FM transmitters and receivers, single sideband transmitters and receivers, data communications and AM and FM broadcast transmitters. This course also includes the use of the spectrum analyzer and service monitor to do actual repair of various AM and FM transmitters.	
EET-209	6
Internship	
Preparation for the transition from the classroom to a working environment through employment within the field of study. Students will use this opportunity to apply learned concepts and skills in practical situations, to acquire knowledge and experience of current techniques, methods and theories in their chosen career. Progress will be monitored and evaluated by the employer supervisor and the NCKTC internship supervisor.	
EET-217	1
CET, FCC & A+ Study	
Preparation for the Certified Electronics Technicians Associate Test (CET), and the Federal Communications Commission Radio Telephone License (FCC) test.	
EET-220	3
High Definition Color Television Systems	
Course emphasizes the theory of troubleshooting modern color TV receivers including plasma, LCD and OLED. Pre-requisite: EET 105	
EET-221	3
Two-Way Radio Systems	
Course covers service area, repairs in the vehicle, power supply systems, transmitter maintenance, receiver maintenance, accessory repair, remote control systems repair, portable equipment repair, installation of systems and miscellaneous equipment repair. Pre-requisite: EET 206, EET 207	
EET-222A	2
Microprocessors I	
Programming in PBASIC to interface the Parallax Basic Stamp to other components. Numerous experiments are done with Parallax Basic Stamp II.	
EET-222B	1
Microprocessors II	
Course is an extension of EET222A with experiments using the Intel 8086 Microprocessor or Parallax Basic Stamp. The student will complete a small robotics project interfacing the Microprocessor to components not limited to motors, switches, servos and lights. This project will have prior approval of the instructor. Pre-requisite: Must be taken in conjunction with EET 222A	
EET-223	4
Programmable Controllers	
Study of the operation of a programmable-control managed system and how programmable controllers fit into the industrial system. PC ladder logic, programming procedures and PC logic applications are also covered.	
EET-224	3
Advanced Programmable Controllers	
This course is an extension of EET-223 with more in depth ladder logic programming. Pre-requisite: EET 223	
EET-235	2
PC Servicing and Upgrade	
Introduction to various hardware and software aspects of a microcomputer system including power supplies, microprocessors, input/output configurations, hard drives, modems, sound cards, video cards and mother boards.	
EET-237	3
Microcomputer Networking	
This course covers the fundamentals of computer networks. Topics include network protocols, Ethernet wiring, hubs, switches, routers, and peer-to-peer networking and server based networking. Both Novel networking and Windows based networking is covered. Pre-requisite: EET 235	

EET-240A	2
Shop Practicum	
Provides time and opportunity for the student to work independently and draw upon previous program instruction to arrive at a satisfactory completed project. The purpose of the practicum is to promote initiative, independent study and the assumption of responsibility to work without specific instruction.	
and	
EET-240B	3
Shop Practicum	
Provides time and opportunity for the student to work independently and draw upon previous program instruction to arrive at a satisfactory completed project. The purpose of the practicum is to promote initiative, independent study and the assumption of responsibility to work without specific instruction.	
EL-100	1
Electrical Safety/OSHA	
Upon successful completion of this course, the student should be able to identify various industrial safety and health considerations, list basic safety rules and regulations, identify proper personal protective equipment needed for common industrial tasks and recognize the need for an ongoing safety program.	
EL-101	4
DC Circuits	
This course addresses the basics of DC circuits. Students perform calculations using Ohm's Law and study the construction, operation and purpose of resistors, potentiometer, switches, fuses, relay capacitors, inductors, batteries, alternators, transformers and series-parallel resonant circuits. Students build basic DC circuits using a multi meter and oscilloscope.	
Pre-requisites: EL 100	
EL-102	4
AC Circuits	
This course addresses the basics of AC circuits. Students perform calculations using Ohm's Law and study the construction, operation and purpose of resistors, potentiometer, switches, fuses, relay capacitors, inductors, batteries, alternators, transformers and series-parallel resonant circuits. Students build basic AC circuits using a multi meter and oscilloscope.	
Pre-requisite: EL 100, EL 101	
EL-103	4
Analog Circuits	
Covers the basics of semiconductor devices and electronic circuits needed for electricians. A study of the operation and purpose of semiconductors and basic electronic circuits such as diodes, transistors, SCR, transducers and basic electronic circuits. Power supplies, control circuits and amplifier circuits are tested for correct operation.	
Pre-requisite: EL 100, EL 101, EL 102, EL 108	
EL-104	1
Electrical Blueprint Reading	
This course addresses the fundamentals of interpreting construction drawings. Students will learn to interpret plan views, elevation views, sections, details, schedules, specifications, symbols and abbreviations found on most residential, commercial and industrial construction drawings.	
Pre-requisites: EL 100, EL 101, EL 102, EL 108	
EL-106	4
National Electrical Code	
This is an introductory course on the use and interpretation of the current National Electrical Code. Students should develop a working knowledge of the code that will permit them to apply it to everyday applications. Upon successful completion of this course, the student should be able to use the code to design service entrances, feeders and branch circuits and discern between wiring methods used in different occupancies.	
Pre-requisites: EL 100, EL 101, EL 102, EL 108	
EL-107	4
Electrical Motor Controls	
Course covers construction and operation of pilot devices, motor starters, control circuits, direct current, single-phase and three-phase motors. Basic motor control circuits are constructed from a schematic or ladder diagram. Students also troubleshoot basic motor control circuits. Current and overload protection for motors is studied as well.	
Pre-requisites: EL 100, EL 101, EL 102, EL 104, EL 108	

EL-108	4
Wiring Methods	
This is an introductory course on residential wiring methods that includes practical application and hands on experience in implementing code requirements. Upon successful completion of this course, the student will have the necessary skills to wire a residence to meet the minimum requirements as set forth in the current National Electric Code for residential occupancies.	
Pre-requisites: EL 100, EL 101, EL 102	
EL-201	3
Electrical Troubleshooting	
Course covers many special applications of electrical and electronic circuits. Explains the use of various types of test equipment and the procedures to find and solve electrical and electronic problems. Students learn about many different types of electrical and electronic equipment and possible causes for failure.	
Pre-requisite: EL-103	
EL-202	4
Programmable Controllers	
Study of the operation of a programmable-control managed system and how programmable controllers fit into the industrial system. PC ladder logic, elementary programming procedures, PC logic applications and troubleshooting are also covered.	
Pre-requisite: EL 100, EL-107	
EL-203	2
Generators	
This course covers the basics of how a generator operates and its construction; where and when generators are required by the National Electric Code; and how generators are installed and connected to the electrical service.	
EL-204	2
Transformers	
Course covers transformer construction, principles and classifications, circuitry, cooling, connections and transformer maintenance. Students determine polarity of the transformer, how control transformers are used, single-phase and three-phase hookups for both delta and wye systems.	
EL-205	2
Motors	
This course covers the theory of basic motor action of both AC and DC motors. Studies will cover many different types of motors, the characteristics of each, theory of operation, starting methods, and applications of each as they apply to industry.	
EL-206A	3
Commercial Wiring I	
This course covers the theory, practice and NEC code requirements for commercial wiring. In addition, residential wiring is reviewed and some basic elements of industrial wiring are covered. The course consists of definitions, formulas, wiring methods, overcurrent protection, calculations and sample examinations. Wiring projects are also assigned to help put theory into practice. This course along with EL-206B is designed to help prepare students to take their Journeyman Electricians Exam.	
Pre-requisite: EL-106, EL-108	
EL-206B	4
Commercial Wiring II	
This course is an extension of EL-206A. It gives students more in depth study and preparation time in order to pass their Journeyman Electricians Exam. This course stresses more lab time and allows students to learn more about the code by applying it in real life applications.	
Pre-requisite: EL-206A	
EL-207	6
Internship	
Preparation for the transition from the classroom to a working environment through employment within the field of study. Students will use this opportunity to apply learned concepts and skills in practical situations, to acquire knowledge and experience of current techniques, methods and theories in their chosen career. Progress will be monitored and evaluated by the employer supervisor and the NCKTC internship supervisor.	
Pre-requisite: EL-206B	
Co-requisite: Pass Journeyman Test	

EL-208	6
Shop Practicum	
Provides time and opportunity for the student to work independently and draw upon previous program instruction to arrive at a satisfactory completed project. The purpose of the Practicum is to promote initiative, independent study and the assumption of responsibility to work without specific instruction.	
Pre-requisite: EL-206B	
HE-101	1
Occupational and Pre-Operational Safety and Basic Maintenance	
Familiarization of the hazards of operating heavy equipment. Introduction in the proper use of grease guns and other preventative tools, oils used in different compartments of equipment, occupational safety with emphasis on performing routine maintenance and safety measures. Instruction in starting procedures of different equipment, control levers, functions and gearshift patterns and attachments.	
HE-104	3
Crawler Tractor Operations & Maintenance I	
Basic crawler operations to full scale operation including dozers, push tractors, and basic maintenance.	
HE-105	3
Scraper Operations & Maintenance I	
This course covers the operations of the overhung scrapers, both the conventional and the self-loading models. The student is instructed in chain loading and dumping while cutting slopes and building fills. This course also includes basic maintenance and safety of the operations of the scraper.	
HE-106	3
Motor Grader Operations & Maintenance I	
In this course the student is instructed in the straight frame grader and the articulated motor grader. Students are instructed in building and maintenance of roads, cutting both back slopes and front slopes and cutting of "V" ditches. Instructions include the use of different attachments and maintenance of equipment.	
HE-107	1
Loader Operations & Maintenance I	
The student is instructed in the proper way to use the loader as an excavating machine, a backfill machine and how to load trucks properly. This course also includes basic maintenance of the loader.	
HE-108	1
Backhoe/Loader/Excavator Operations & Maintenance I	
The student is instructed in the proper use of a backhoe/excavator to dig footings, a ditch to a pre-determined grade and how to excavate a basement. Students will be instructed on how to use the backhoe to backfill an excavated area. Basic maintenance of the backhoe/excavator is part of this course also.	
HE-110	2
Related Equipment Instruction	
This is a theory course involving supporting equipment used in the industrial trades such as compacting equipment, gridwheel rollers, sheepsfoot rollers and steel-wheeled rollers. The student is instructed in basic grade preparation using the hand level and laser level.	
HE-112	3
Crawler Tractor Operations & Maintenance II	
Continuation of Crawler Tractor Operations and Maintenance I.	
Pre-requisite: Students must successfully complete Crawler Tractor Operations and Maintenance I.	
HE-113	3
Scraper Operations & Maintenance II	
Continuation of Scraper Operations and Maintenance I.	
Pre-requisite: Students must successfully complete Scraper Operations and Maintenance I.	
HE-114	3
Motor Grader Operations & Maintenance II	
Continuance of Motor Grader Operations and Maintenance I.	
Pre-requisite: Students must successfully complete Motor Grader Operations and Maintenance I.	

HE-115	1
Basic Employability Skills	
In this course the student is instructed on how to obtain employment and retain it. Students are instructed on how to dress appropriately for the job they are applying for. How to speak at a job interview. Students will be instructed on how to fill out a job application in its entirety.	
HE-116	2
Backhoe/Loader/Excavator Operations & Maintenance II	
Continuation of Backhoe/Loader/Excavator Operations and Maintenance I.	
Pre-requisite: Students must successfully complete Backhoe/Loader/Excavator Operations and Maintenance I.	
HE-117	1
Grade Stake & Civil Plan Reading	
This course introduces the students to the terms associated with grade work and explains the meaning of markings on various types of grade stakes. Students will be able to identify and operate equipment used by the operator to check grade. Students will use a builder's level, laser levels, hand levels, grade rods and tapes to check horizontal and vertical distance of cut and fill stakes. The students will learn how to read civil plans and how to convert rod readings to elevations to check grade.	
HE-118	2
Internship	
The internship is designed to prepare the student for the transition from the classroom to a working environment through employment within the field of study.	
HE-120	1
Locator Operations-Level I	
Locator operation is designed to equip participants with knowledge and skill development for operating locator equipment according to the standards of the equipment manufacturer's operator's manual.	
HE-125	2
Horizontal Directional Drilling-Level I	
This course is designed to equip participants with knowledge and develop skill for basic operation of horizontal directional drilling equipment. The course includes instruction, in-field exercises simulation and professional coaching for the following:	
1.HDD Safety	
2.Preplanning	
3.Tracking Electronics	
4.Maintenance/Safety	
5.Drilling Fluids and mixing	
6.Downhole Tooling	
7.Field Operation	
Simulation for training will take an operator through modules that must be performed on the Jet Trac® Directional Drilling Simulator.	
HE-230	3
Principles of Nutrition	
This course is an in depth study of the essential nutrients for healthy lifestyles, body processes, and fallacies with emphasis on the scientific basis of nutrition.	
KSPN-100	4
Foundations of Nursing	
This course utilizes the nursing standards of practice based on principles of biology, psychosocial, spiritual and cultural to meet the needs of clients throughout the lifespan. Emphasis is placed on basic nursing skills, patient safety, and therapeutic communication. Concepts and skills are enhanced in subsequent courses.	
Pre-requisites: Admission criteria met with acceptance into the nursing program.	
Co-requisite: KSPN 115	
KSPN-106	4
Medical Surgical Nursing I	
This course focuses on the effect of disorders of selected systems throughout the lifespan and applies the nursing process in meeting basic needs. Health promotion and maintenance, rehabilitation and continuity of care are emphasized. The role of the practical nurse is incorporated throughout.	

- KSPN-107** **2**
Gerontology Nursing
 This course is designed to explore issues related to the aging adult using the nursing process as the organizing framework. Also discussed are the impact of ageism, alterations in physiological and psychosocial functioning, and the role of the practical nurse in caring for older adult clients.
Pre-requisites: KSPN 100, KSPN 115, KSPN 106, KSPN 116, KSPN 119, PN 102A, KSPN 112, KSPN 118
Co-requisites: KSPN 117, PN 102B
- KSPN-108** **2**
Maternal Child Nursing
 This course focuses on pre- and post-natal maternal nursing care, as well as, the care of children from infancy to adolescence. Emphasis is given to normal reproduction and frequently occurring biological, cultural, spiritual and psychosocial needs of the child-bearing and child-rearing family.
Prerequisites: KSPN 100, KSPN 115, KSPN 106, KSPN 116, KSPN 119, PN 102A, KSPN 112, KSPN 117, KSPN 107
Co-requisite: KSPN 118, PN 102B
- KSPN-112** **4**
Medical Surgical Nursing II
 This course focuses on the effect of disorders of selected systems throughout the lifespan using the nursing process in meeting basic needs. Prevention, rehabilitation, continuity of care, and critical thinking are emphasized. The role of the practical nurse is incorporated throughout.
Prerequisites: KSPN 100, KSPN 115, KSPN 106, KSPN 116, KSPN 119, PN 102A
Co-requisites: KSPN 117, PN 102B
- KSPN-115** **2**
Foundations of Nursing Clinical
 This course explores the art and science of nursing in this clinical course. Emphasis is placed on the nursing process, cultural and spiritual awareness, communication, data collection, performance of basic nursing skills, and documentation. Principles of safe medication administration are introduced.
Pre-requisites: Admission criteria met with acceptance into the nursing program.
Co-requisite: KSPN 100
- KSPN-116** **3**
Medical Surgical Nursing I Clinical
 This course uses simulated and actual care situations of selected body systems throughout the lifespan, utilizing the acute and long-term care setting. An emphasis is placed on critical thinking and clinical decision-making skills.
Prerequisites: KSPN 100, KSPN 115
Co-requisites: KSPN 106, KSPN 119, PN 102A
- KSPN-117** **3**
Medical Surgical Nursing II Clinical
 This course uses simulated and actual care situations of selected systems throughout the lifespan, utilizing acute and long-term care settings. An emphasis is placed on critical thinking and clinical decision-making skill development. Principles of leadership for the practical nurse will be implemented, as well as multi-task management skills for transition as a practical nurse.
Pre-requisites: KSPN 100, KSPN 115, KSPN 106, KSPN 116, KSPN 119
Co-requisites: KSPN 112, PN 102B
- KSPN 118** **1**
Maternal Child Nursing Clinical
 This clinical course applies concepts from Maternal Child Nursing. Emphasis is placed on the nursing process and meeting the basic needs of the maternal child client.
Prerequisites: KSPN 100, KSPN 115, KSPN 106, KSPN 116, KSPN 119, PN 102A, KSPN 112, KSPN 117, KSPN 107
Co-requisite: KSPN 108, PN 102B
- KSPN-119** **3**
Pharmacology
 This course introduces the principles of pharmacology, drug classifications, and the effects of selected medications on the human body. The nursing process is used as the framework for ensuring safe and effective nursing care for clients across the lifespan.
Pre-requisites: KSPN 100, KSPN 115
Co-requisites: KSPN 106, KSPN 116, PN 102A

KSPN-120 **2**
Mental Health Nursing

This course explores basic concepts and trends in mental health nursing. Therapeutic modalities and client behavior management are discussed. Emphasis is placed on using the nursing process and meeting the basic needs of the mental health client.

Prerequisites: KSPN 100, KSPN 115, KSPN 106, KSPN 116, KSPN 119, PN 102A, KSPN 112, KSPN 108, KSPN 119, KSPN 107

Co-requisite: PN 102B

LS-100 **1**
Introduction to Employment Skills

An introduction to the skills necessary to gain and retain entry level employment and provide quality customer service. Areas to be covered will include employee characteristic, customer-centric services, cultural diversity, generational differences, customer behavior, attitudes, customer communications, and listening skills.

MA-099 **3**
Basic Algebra

This course is designed for students with little or no high school algebra, or those who have appropriate math scores on the ACT and ASSET exams. Topics covered will include Number Systems, Solving Linear Equations, Applications of Linear Equations, Properties of Lines, Systems of Linear Equations, Polynomials, Factoring, and Radicals. **Prerequisite:** Appropriate ACT/ASSET/COMPASS scores.

MA-100 **3**
Basic College Math

This course will focus on fundamental concepts of arithmetic, algebra, and geometry. It supports these concepts with practical applications in a variety of technical and career vocations, including automotive, allied health, welding, plumbing, machine tool, carpentry, auto mechanics, HVAC, and many other fields.

MA-101 **3**
Business Math

Business Math is a course starting with the basic numerical concepts and moving to more complex concepts. The course will not only deal with theory but will also concentrate on applications of using those concepts in solving problems dealing with Personal Finance, Business Finance, Business Analysis, and Business Statistics.

MA-110 **3**
Intermediate Algebra

The concepts of fundamental operations with real and imaginary numbers, symbolism used in Algebra, solving and graphing equations, and applications of these concepts to word problems will be developed. This course is designed for students who have only one year of high school algebra, are inadequately prepared for College Algebra, or score in the prescribed range on the ASSET/Compass exams. Topics covered include number systems, linear equations and equalities, polynomials, exponents, rational expressions, and quadratic equations. **Prerequisite:** Grade of C or better in Basic Algebra, appropriate ACT/ASSET/Compass scores or permission by the Dean of Instructional Services.

MA-111 **3**
College Algebra

The course reviews the fundamental concepts of real and imaginary numbers along with symbolism used in Algebra. Concepts to be developed include solving and graphing linear and quadratic equations, exponential and logarithmic functions, systems of equations and matrices. Students will apply these concepts to real world situations through word problems. **Prerequisite:** Grade of C or better in Intermediate Algebra, appropriate ACT/ASSET/Compass scores, or permission by the Dean of Instructional Services.

NUR-101 **3**
Foundations of Nursing

This course introduces the learner to applications of critical thinking and the nursing process to provide care to clients in a variety of health care settings. Emphasis is on holistic health care across the health-illness continuum. This course introduces learners to the clinical skills essential for the nursing role of care provider including safe and effective clinical environment, skill preparation, implementation and evaluation. Beginning health assessment concepts are introduced. The course emphasizes use of caring behaviors, critical thinking, and communication while completing nursing skills.

Prerequisites: Admission criteria met with acceptance into the first year of the nursing program.

- NUR-102** 1
Foundations of Nursing Lab
 Nursing skills will be taught and practiced in the campus laboratory. Gordon's functional health patterns will provide the framework. Learners will be expected to know selected nursing procedures, and will be responsible for return demonstration and check-off of selected nursing procedures.
Prerequisites: Admission criteria met with acceptance into the first year of the nursing program.
Corequisite: NUR 101
- NUR-104** 4
Medical/Surgical Nursing Across the Life Span I
 This course introduces the learner to assessment of Gordon's functional health patterns that become the focus of clinical study in subsequent courses. Emphasis is placed on holistic health care across the health-illness continuum.
Prerequisites: NUR 101, 102
Corequisite: NUR 106
- NUR-106** 2
Medical/Surgical Nursing Across the Lifespan I Clinical
 Learners will be provided experiences in a long-term facility. Development of the plan of care and nursing care plans with clinical practice introduces the nursing process, caring behaviors, and basic human needs.
Prerequisites: NUR 101, NUR 102, Admission criteria met with acceptance into the first year of the nursing program.
Corequisite: NUR 104
- NUR-107** 1
Basic Pharmacology
 This course introduces the basic concepts of pharmacology related to the actions, therapeutic and adverse effects, interactions of drugs, drug classifications, and the basic pharmacology of commonly used medications. Learners will apply critical thinking skills to the calculation and administration of medications by oral and parenteral (including intravenous) routes of administration. Emphasis is placed on nursing consideration and client education. Learners will apply knowledge gained in selected clinical settings in caring for clients across the life span in subsequent courses.
Prerequisites: NUR 101
Corequisites: NUR 102, 104, 106
- NUR 108** 1
Math Calculations
 This course is designed as a review for those learners who require extra assistance with basic math skills. Concepts and techniques of dosage calculation are reviewed. Basic math concepts to complex conversion of dosages between and among various systems of weights and volumes will be reviewed.
Prerequisites: Admission criteria met with acceptance into the first year of the nursing program, or instructor's approval.
Corequisites: NUR 102
- NUR-110** 4
Medical/Surgical Nursing Across the Life Span II
 This course introduces the learner to applications of critical thinking and the nursing process to provide care to client's in a variety of health care settings. Nursing concepts related to Gordon's functional health care patterns guide the learner in assisting the individual in achieving optimal functioning. Knowledge from fundamental nursing, the sciences, pharmacology, and nutrition along with the continued integration of cultural concepts provides foundations for nursing care planning for medical and surgical clients.
Prerequisites: NUR 101, 102, 104, 106, 107, 108
Corequisite: NUR 111
- NUR-111** 4
Medical/Surgical Nursing Across the Life Span II Clinical
 This course offers the practicum to apply the related nursing theory in a variety of health care settings. This will enable the student to become more proficient in using the nursing process and performing nursing skills when providing care to individuals with common health problems along the health illness continuum. Clinical learning assignments are designed to utilize the nursing process, caring behaviors, communication, computer literacy, and critical thinking skills. The learner will have the opportunity to be a provider of care to one or two clients.
Prerequisites: NUR 101, 102, 104, 106, 107, 108
Corequisite: NUR 110, 112, 113, 114, 115

NUR-112	1
Maternal Child Nursing	
This course focuses on pre- and post-natal maternal nursing care, as well as, the care of children from infancy to adolescence. Emphasis is given to normal reproduction and frequently occurring biological, cultural, spiritual and psychosocial needs of the child-bearing and child-rearing family.	
Prerequisites: NUR 101, 102, 104, 106, 107, 108, 110	
Corequisite: NUR 111	
NUR-113	1
Gerontology Nursing	
This course is designed to explore issues related to the aging adult using the nursing process and Gordon's Functional Health Care Patterns as the organizing framework. In addition, the impact of ageism and the role of the practical nurse in caring for older adult clients is discussed.	
Prerequisites: NUR 101, 102, 104, 106, 107, 108, 110, 112	
Corequisite: NUR 111	
NUR-114	1
Mental Health Nursing	
This course explores basic concepts and trends in mental health nursing. Therapeutic modalities and client behavior management are discussed. Emphasis is placed on using the nursing process and meeting the basic human needs of the mental health client.	
Prerequisites: NUR 101, 102, 104, 106, 107, 108, 110, 112, 113	
Corequisite: NUR 111	
NUR-115	1
Socialization into Practical Nursing	
This course introduces the learner to roles and responsibilities of the graduate practical nurse as defined by established standards, including the Kansas Nurse Practice Act. Emphasis is placed on accountability and perspectives in health care. Career and job readiness skills are developed.	
Prerequisites: NUR 101, 102, 104, 106, 107, 108, 110, 112, 113, 114	
Corequisite: NUR 111	
NUR-201	1
Professional Nursing Role Transitions	
This course introduces the learner to selected concepts related to the role of the Associate Degree nurse as a provider of care, teacher, manager, client advocate, and member of the profession. Emphasis is placed on application of critical thinking in providing and managing comprehensive care in a variety of health care settings with individuals across the life span. This course is designed to assist the Licensed Practical Nurse with the transition into the practice of professional nursing. The role of the Associate Degree nurse and the NLNAC core competencies will be explored. The Kansas Nurse Practice Act will be addressed.	
Prerequisites: Admission into the second year of the program.	
Corequisite: NUR 206	
NUR-203	1
Perspectives of Health Assessment and IV Therapy	
This course develops skills of physical assessment, history skills, and promotion of wellness by using holistic nursing assessments for individuals across the life span. This includes use of health like style strategies and primary, secondary, and tertiary prevention. Assessment will reflect recognition of normal, variation of normal, and deviations from normal findings. IV Therapy and management concepts are introduced.	
Prerequisites: NUR 201	
Corequisite: NUR 206	
NUR-204	2
Advanced Medical/Surgical Nursing Across the Life Span I	
This course prepares the learner to apply theoretical knowledge when providing care to medical/surgical individuals/families with common health problems along the health illness continuum. This course will continue to emphasize nursing processes, caring behaviors, communication, nursing assessment, and the role of the registered nurse professional in promoting health and wellness. Gordon's functional health care patterns will provide the framework and focus is placed as a care provider, teacher, manager, professional, and advocate in meeting the nursing needs of individuals across the life span.	
Prerequisites: NUR 201, 203	
Corequisite: NUR 206	

- NUR-205** **3**
Advanced Medical/Surgical Nursing Across the Life Span II
 This course continues on where NUR 204 left off. Gordon's functional health care patterns continue to provide the framework and focus is placed as a care provider, teacher, manager, professional, and advocate in meeting the nursing needs of individuals across the life span. The learner is prepared to apply theoretical knowledge when providing care to medical/surgical individuals/families with common health problems along the health illness continuum. This course will continue to emphasize the nursing process, caring behaviors, communication, nursing assessment, and the role of the registered nurse professional in promoting health and wellness.
Prerequisites: NUR 201, 203, 204
Corequisite: NUR 206
- NUR-206** **3**
Advanced Medical/Surgical Nursing Across the Life Span III Clinical
 Advanced nursing skills will be taught and practiced in the campus laboratory. Gordon's functional health care patterns will provide the framework. Learners will be expected to know selected nursing procedures and health assessment, and will be responsible for return demonstration and check-off of selected nursing procedures. Clinical learning experiences will be provided in acute and chronic health care facilities. This course will continue to emphasize the nursing process, caring behaviors, communication, critical thinking, nursing assessment, computer literacy, and the role of the nurse as provider and manager of care, and as a member of the discipline in promoting health and wellness.
Prerequisites: Admission into the second year of the program.
Corequisite: NUR 201, 203, 204, 205, 207
- NUR-207** **1**
Advanced Pharmacology
 This course focuses on a review of pharmacology concepts related to the body systems and the medications commonly prescribed for clients with various medical conditions. In addition, drug dosage calculations will be reviewed.
Prerequisites: Admission criteria met with acceptance into the second year of the nursing program, or instructor's approval.
Corequisite: NUR 201, 203, 204, 205, 206
- NUR-209** **1**
Perspectives in Oncology Nursing
 This course focuses on oncology nursing concepts as it relates to individuals and families across the life span. Topics to be covered provide the learner with a well rounded view of oncology nursing.
Prerequisites: Admission criteria met with acceptance into the second year of the nursing program, or instructor's approval.
- NUR-210** **2**
Advanced Medical/Surgical Nursing Across the Life Span III
 This course continues on where NUR 205 left off. Gordon's functional health care patterns continue to provide the framework and focus is placed as a care provider, teacher, manager, professional, and advocate in meeting the nursing needs of individuals across the life span. The learner is prepared to apply theoretical knowledge when providing care to medical/surgical individuals/families with common health problems along the health illness continuum. This course will continue to emphasize the nursing process, caring behaviors, communication, nursing assessment, and the role of the registered nurse professional in promoting health and wellness.
Prerequisites: NUR 201, 203, 204, 205, 206, 207
Corequisite: NUR 210, 212, 214, 215
- NUR-211** **3**
Advanced Medical/Surgical Nursing Across the Life Span IV Clinical
 Clinical learning experiences will be provided in acute and/or chronic health care facilities and community-based experiences. This course will continue to emphasize the nursing process, caring behaviors, communication, critical thinking, nursing assessment, computer literacy, and the role of the nurse as provider and manager of care, and as a member of the discipline in promoting health and wellness.
Prerequisites: NUR 201, 203, 204, 205, 206, 207
Corequisite: NUR 210, 212, 214, 215
- NUR-212** **2**
Advanced Maternal Child Nursing
 This course will expand on concepts taught in NUR 112 and will focus on the complex health/wellness needs of individuals/families throughout the life span. The needs of the high risk obstetric client, neonate, acutely ill child, as

well as the client in the perioperative experience, and the nurse's role in each are explored. The ethical/legal issues as a provider of care and manager of individuals/families will be discussed. The learner will use skills in communication, caring behaviors, and the nursing process to facilitate the attainment of individual and family health and wellness.

Prerequisites: NUR 201, 203, 204, 205, 206, 207, 210

Corequisite: NUR 211

NUR-213 1

Advanced Gerontology Nursing

This elective course will expand on concepts taught in NUR 113 and will examine gerontological nursing concepts. Topics to be covered include and overview of gerontologic nursing, health assessment, psychosocial aspects, drug therapy, nutritional needs and community resources for the older adult and their families.

Prerequisites: Admission criteria met with acceptance into the second year of the nursing program, or instructor's approval.

NUR-214 2

Advanced Mental Health Nursing

This course will expand on concepts taught in NUR 114 and will examine mental health, mental-illness, nurse client relationships, and self-awareness. Through the use of the nursing process, therapeutic communication, and caring behaviors, the path to wellness will be promoted in individuals, families, and groups. The role of the psychiatric nurse as a member of the mental health team and the impact trends and issues in mental health have on current practice will be examined.

Prerequisites: NUR 201, 203, 204, 205, 206, 207, 210, 212

Corequisite: NUR 211

NUR-215 1

Leadership for Professional Nursing Practice

This course introduces the learner to the role of the Associate Degree nurse in an evolving health care delivery system. Concepts concerning principles of leadership and management, contemporary information technologies, evolving trends and issues, transdisciplinary teams, accountability, alternative therapies, and the need for life-long learning will be explored. This course prepares students for job readiness.

Prerequisites: NUR 201, 203, 204, 205, 206, 207, 210, 211, 212, 214

NUR-216 1

Perspectives in Critical Care Nursing

This elective course focuses on introductory critical care nursing concepts as it relates to individuals and families across the life span.

Prerequisites: Admission criteria met with acceptance into the second year of the nursing program, or instructor's approval.

NUR-218 4

Pathophysiology for the Nursing Student

This elective course is the study of the fundamental changes in Body physiology due to disease. Topics covered include the basics of cell biology, inflammation, mechanisms of body defense, specific body systems, and common disorders with emphasis placed on disease processes, manifestations, and treatment.

Pre-requisites: Successful completion of BIOL 230 Human Anatomy & Physiology w/Lab.

OSHA-110 1

OSHA Training

This course provides a variety of training on construction safety and health to entry level workers. Instruction includes construction industry occupation safety and health modules and promotes workplace safety and health.

PHAC-101 4

Plumbing I

Designed to provide an understanding of the plumbing system of a structure including water supply distribution pipes; fixtures and fixture traps; soil, waste and vent pipes; building drains and building sewers; storm water drainage and their devices; appurtenances and connections within the building and outside the building within the property line. All plumbing is taught to specifications of the Uniform Plumbing Code and occupational safety.

PHAC-102 3

Electricity I

This course covers basic wiring practices for 120 volt and 240 volt control circuits. The student will have an understanding of heating controls, switches, relays, transformers, gas valves, etc., and be able to wire a furnace.

PHAC-103A	3
Heating & Sheet Metal I	
Course consists of classroom and shop learning experiences which will enable the student to become proficient in the installation, repair and maintenance of heating systems. Theory and application of basic principles of heating, filtering and controlling humidity. Course is designed to provide an understanding of the ducts in a building or residence using the flat, basic-method of building ducts from flat metal. Includes instruction in the basic movement of air for a heating system.	
PHAC-103B	3
Heating & Sheet Metal II	
Course consists of classroom and shop learning experiences which will enable the student to become proficient in the installation, repair and maintenance of heating systems. Theory and application of basic principles of heating, filtering and controlling humidity. Course is designed to provide an understanding of the ducts in a building or residence using the flat, basic-method of building ducts from flat metal. Includes instruction in the basic movement of air for a heating system.	
PHAC-104	2
Plumbing II	
Plumbing II is a continuation of Plumbing I dealing with the development of technical skills and knowledge of the trade.	
PHAC-105A	3
Air Conditioning I	
A study of components plus learning experiences in the repair and installation of air conditioning systems.	
PHAC-105B	2
Air Conditioning II	
A study of components plus learning experiences in the repair and installation of air conditioning systems.	
PHAC-106	2
Electricity II	
Electricity II is a continuation of Electricity I dealing with 240-voltage and three-phase wiring for air conditioning controls and circuits.	
PHAC-108	3
Shop Practicum	
Provides time and opportunity for students to work independently and draw upon previous program instruction to arrive at a satisfactory completed project. Promotes initiative, independent study and the assumption of responsibility to work without specific instruction.	
PHAC-109	3
Internship	
Preparation for the transition from the classroom to a working environment through employment within the field of study. Students will use this opportunity to apply learned concepts and skills in practical situations, to acquire knowledge and experience of current techniques, methods and theories in their chosen career. Progress will be monitored and evaluated by the employer supervisor and the NCKTC internship supervisor.	
PHRM-101	3
Orientation to Pharmacy Practice	
This course orients students to the work of the pharmacy technician and the context in which technicians' work is performed. Students learn the concept of direct patient care and technicians' general role in its delivery, with particular emphasis on the complementary roles pharmacists and technicians. They will gain an understanding of the range of current direct patient care delivery systems and of medication distribution systems including the step-by-step processes in which the technician practices. Students are introduced to the profound influence that medication laws, standards, and regulations have on practice. In addition, they will be introduced to the concept of quality assurance and its procedures. Safety issues will be covered such as First Aid and CPR. Learning activities may include fieldtrips to pharmacies (community and hospital based) and guest lectures within pharmacy fields.	
PHRM-102	3
Pharmaceutical Calculations	
Students will demonstrate the ability to perform pharmaceutical calculations required for the usual dosage determinations and solution preparation. Emphasis will be placed on basic computations, use of measuring tools,	

dosage computations, compounding calculations and solution preparation. Topics covered include ratio and proportion, dilution and concentration, milliequivalent, units, and intravenous flow rates.

PHRM-105 **4**
Pharmacy Technician Internship I

Students who have completed all the program specific courses qualify for this course. Students will participate for a minimum of 180 hours in a certified community/outpatient pharmacy setting supervised by a registered, licensed pharmacist. Students practice skills developed in the didactic and laboratory phases of their training. The duties and tasks to be performed will be pre-determined based on the didactic/lab instructions to reinforce competencies and will be agreed upon by the student and the supervising pharmacist to guarantee learning.

Prerequisites: Successful completion of all courses with a grade of "C" or better in program specific courses.

PHRM-108 **1**
Pharmacy Technician Seminar

Seminar discussions on various aspects of the students' internship experience. Students will share work related experiences with the instructor and their peers. Students will prepare to take the local Kansas State Pharmacy Registration exam.

Prerequisites: PHRM 101, PHRM 102, PHRM 111

PHRM-111 **3**
Pharmacy Operations

This course simulates daily activities in pharmaceutical practice settings. Topics include: order entry processes, medication distribution systems, inventory, prescription processing, billing, repackaging, floor stock and controlled substance distribution, pharmaceutical computer systems, utilization of drug information resources, and proper communication techniques.

Prerequisite: PHRM 101, PHRM 102

PHRM-125 **3**
Pharmacology for Pharmacy Technicians I

This course will provide an introduction to basic concepts of pharmacology as it relates to all the body systems. Students will have a review of each body system. Common disorders and diseases of the human body will be introduced. Common drug reactions and interactions will be covered. Medical terms commonly used will be introduced. The student will have a beginning working knowledge of drug therapy and its relationship with individuals across the lifespan upon the completion of this course.

PHRM-205 **4**
Pharmacy Technician Internship II

Students who have completed all the program specific courses qualify for this course. Students will participate for a minimum of 180 hours in a certified community/outpatient pharmacy setting supervised by a registered, licensed pharmacist. Students practice skills developed in the didactic and laboratory phases of their training. The duties and tasks to be performed will be pre-determined based on the didactic/lab instructions to reinforce competencies and will be agreed upon by the student and the supervising pharmacist to guarantee learning.

Prerequisite: Successful completion of all courses with a grade of "C" or better in program specific courses. Successful completion of PHRM 105

PHRM-206 **1**
Pharmacy Computer Applications

Hands-on training designed to provide information and skills needed to assist Pharmacists in patient database management. Students will learn key subjects such as inputting new prescription in a database, refills, patient profiles, reports databases, nursing home databases, and drug databases.

Prerequisite: Successful completion of all courses with a grade of "C" or better in program specific courses.

PHRM-207 **3**
Advanced Pharmacy Operations w/Lab

This course simulates daily activities in pharmaceutical practice settings. Topics include: intravenous therapy and sterile technique, TPN, weights and measurements. Students discuss compounding facilities and equipment, interpreting compounding orders, formulations records. Students compound suspensions, solutions, lozenges, and suppositories.

Prerequisite: Successful completion of PHRM 111

- PHRM-208** **3**
Pharmacy Technician Topics
 Concepts covered include a practical, focused overview of medical insurance and billing of prescriptions in the community pharmacy setting. Seminar discussions on various aspects of the students' internship experience. Students will share work related experiences with the instructor and their peers. Students will prepare to take the Pharmacy Technician National Certification exam.
Prerequisite: Successful completion of PHRM 108
- PHRM-225** **3**
Pharmacology for Pharmacy Technicians II
 This course builds upon PHRM 125. Students will learn about medication affecting the body systems. Students will learn the use and side effects of prescription medications, nonprescription medications, and alternative therapies commonly used to treat diseases affecting the body systems for individuals across the lifespan. Therapeutic effects will be covered. Adverse effects of prescription medications, nonprescription medications, and alternative therapies commonly used to treat diseases affecting the body systems for individuals across the lifespan will be covered. In addition, students learn abbreviations for terms associated with use of medication therapy for common diseases affecting the body systems.
Prerequisite: Successful completion of PHRM 125
- PN-102A** **1**
Strategies for Success I
 This course is an introduction to many facets of the college experience including academic, personal and professional concerns. The course is designed to give the student an exposure to the practice of skills necessary to thrive while in the nursing program.
Pre-requisites: Admission criteria met with acceptance into the nursing program.
Co-requisites: KSPN 100, KSPN 115, KSPN 116, KSPN 106, KSPN 119
- PN102B** **1**
Strategies for Success II
 This course is designed to give the student an exposure of the practice of skills necessary to thrive while in the nursing program, successfully complete the NCLEX-PN, and transition into practice. ATI testing used extensively to prepare for NCLEX. It is also designed to assist the student in working through the paperwork and legal issues involved in applying for licensure with the Kansas State Board of Nursing.
Pre-requisites: KSPN 100, KSPN 115, KSPN 106, KSPN 116, KSPN 119, PN 102A, KSPN 112, KSPN 108, KSPN 118, KSPN 107, KSPN 120, PN 123, PN 130
- PN-123** **1**
Leadership for the PN
 This course is designed to explore issues related to leadership and management roles using the nursing process as the organizing framework. Also discussed are the impact of legal and ethical issues and role transition.
- PN-130** **2**
Leadership for the PN Clinical
 This course is designed to practice skills related to leadership and management roles using the nursing process as the organizing framework. The focus of practice will include the impact of legal and ethical issues and role transition.
Pre-requisites: KSPN 100, KSPN 115, KSPN 106, KSPN 116, KSPN 119, PN 102A, KSPN 112, KSPN 108, KSPN 118, KSPN107, KSPN120
Co-requisites: KSPN 123, PN 102B
- SOC-135** **3**
Introduction to Sociology
 This course introduces the student to the study of the structure and function of human groups, particularly those which occur in contemporary industrialized cultures. The relationships between the individual and society, culture and society, and the social dynamics of institutions are discussed. Applications of sociology principles will be made to current social problems.
- SS-100** **3**
General Psychology
 This course is a survey of the introduction to the social science of psychology. It introduces basic concepts, theories, founders of psychology, research methods, and contributions to the understanding of human behavior. Chapters studied throughout the course include the nervous system, perception, motivation, learning and memory, social behavior, personality, developmental, and clinical psychology.

SS-105	3
Human Growth and Development	
This course explores the biological, physical, cognitive, and social development of individuals from conception to death. The course will provide a general knowledge of the overall process of human development and the changes that occur during the human life span from the pre-natal stage through death and dying.	
TNT-111	4
Digital Circuits for Telecommunications	
Course covers the fundamentals of digital devices, logic elements, ladder logic, binary and hexadecimal number systems, digital codes, serial communications and pbasic programming using the Parallax basic stamp.	
TNT-130	2
Telecommunications Cabling	
This course introduces the student to the theory and practical application of both copper and fiber optic cabling for telecommunication systems. Topics include transmission theory, noise standards, cable types and systems, connectors, physical layer components, installation, fiber splicing and ground/shielding techniques.	
TNT-140	3
Computer Networks I	
This course introduces the student to the fundamentals of computer networks. Topics include an overview of data communication standards, protocols, equipment and how they are integrated into network topologies and systems. Students will design and build Local Area Networks.	
TNT-150	5
Switching & Routing Protocols	
This Course introduces various communication protocols, and their place within the OSI model. Topics include background information, historical protocols, various individual physical link, and network layer protocols, and the integration of individual layer protocols.	
TNT-160	5
Introduction to Telecommunications Networks	
This course introduces the student to the principal elements and theory (both analog and digital) of telecommunication networking systems. Topics include system network testing and measurement, wiring, network transmission techniques, synchronization and analysis, switching, signaling and related applications.	
TNT-170	3
Survey in Telecommunications	
This course is designed to introduce new and emerging topics in telecommunications. Topics include cellular phones, standards, management information bases or any emerging technology.	
TNT-200	4
Internship (Optional)	
This course prepares students for the transition from the classroom to a working environment through employment in their field of study. Progress will be monitored and evaluated by the employer and the NCKTC internship coordinator.	
TNT-210	3
Telecommunications Digital Switching Systems	
This course introduces the students to the theory and application that deal with modern digital switching in our everyday environment. Topics include digital switch transmission and protocol theory, hands on training with our T7000 soft switch, digital switching architecture, end office application, switching techniques, switch network, and switch maintenance.	
TNT-220	3
Fiber Optics & Other Transmission Methods	
The Fiber Optic and Other Transmission Methods course is designed to introduce methods of transmission, ranging from DSO, DS1, T-1, DS3, HDSL, to optical carrier systems. Topics include LAN-to-LAN, LAN-to-Host, LAN-to-WAN connectivity, X.25 protocol, packet switching networks, and network topologies explained on a WAN basis. Upon completion, the student will be able to demonstrate an understanding of wide area networking, hands-on fiber optic and T-1 carrier training.	

TNT-230	3
Computer Networks II	
This is an extensive course that introduces the students to the makeup and structure of a networking environment, utilizing Wide Area Network technologies to connect diverse and geographically separate networks. The student will learn different types of topologies, transmission media, protocols, internetworking equipment, trends and internetworking designs. Server Management will also be discussed.	
Pre-requisite: TNT 140	
TNT-250	4
LAN/WAN Design	
This course introduces theory and provides experience in analyzing and troubleshooting telecommunications network systems. Topics include physical issues, software debugging, viruses, e-mail, traffic management, server and router configuration, documentation and equipment use. Upon completion, the student will be able to identify and solve telecommunication network problems.	
TNT-260	4
Advanced Telecommunications Networks	
This course introduces the student to the principal elements and theory of analog and digital telecommunications networking systems. Topics include system network overview, subscriber loops, network testing and measurement, wiring, network transmission techniques, synchronization and analysis, switching, signaling and related applications. Protocols also are a part of this course. Such protocols as SIP, H.323, SS7, and MGCP.	
TNT-270	4
LAN/WAN Troubleshooting Fundamentals	
In this course students will learn the fundamentals of troubleshooting LAN/WAN networks. The course will cover different types of transmission media such as copper and fiber optics. Students will learn to troubleshoot using the latest test equipment and theory.	
WL-100	1
Welding Safety/OSHA 10	
Through a variety of classroom and/or lab learning and assessment activities, students in this course will: explain job/site safety and precautions for job/site hazards; determine the uses of personal protective equipment (PPE); identify the safety equipment and procedures related to safe work practices and environment; identify fire prevention and protection techniques; explore Hazardous Communications (HazCom) including Material Safety Data Sheets (MSDS).	
WL-101	3
Oxy-Acetylene/Oxy-Fuel Procedures	
Provides technical knowledge and practical applications in welding. Safety, first-aid, tools, equipment, metallurgy, oxy-acetylene welding, oxy-fuel cutting, hard surface and braze welding is also included.	
WL-102	3
SMAW	
Orient students on the process of Shielded Metal Arc Welding procedures using E-6010, 7010, ER-80S D-2, ER-308L filler metal on steel and stainless steel. Welding will be done in all positions (flat, horizontal, vertical, overhead). Students will also be engaged in aluminum, cast iron and other alloying materials. Safety will be addressed throughout the course. Certification available if applicable weld tests meet AWS/API 1104 standards.	
WL-103	3
GMAW	
Course covers safety equipment, filler metal, gas selection, applications and welding techniques. Plate and pipe tests completed to AWS specifications.	
WL-104	3
GTAW	
Orient students on the process of Gas Tungsten/Arc Welding procedures using ER-80S D-2, ER-308L ER4043 filler metal on steel, stainless steel and aluminum. Welding will be done in all positions (flat, horizontal, vertical, overhead). Pipe and tubing will also be performed in all positions. Safety will be addressed throughout the course. Certification available if applicable weld tests meet AWS/API 1104 standards.	

WL-105	3
Special Welding Procedures	
Orient students on special welding procedures in the welding field using OFW and SMAW on cast iron, carbon steel, hydraulic/brake lines, piping and maintenance/repair welding. Metallurgy and metal principles will also be addressed. Safety will be addressed at the introduction and throughout the course.	
WL-106A	2
Blueprint Reading/Welding Symbols I	
Students will learn the importance of blueprints/working drawings in the welding field. Students will explore the various blueprint layouts, views, lines, notes, scales, and specifications. Mathematics and fractions will be stressed throughout.	
Pre-requisite: WL 106A	
WL-106B	4
Blueprint Reading/Welding Symbols II	
Students will learn the importance of blueprints/working drawings in the welding field. Students will explore the various blueprint layouts, views, lines, notes, scales, and specifications. Students will explain the different types of blueprint drawings, (structural, mechanical, and piping). Mathematics, fractions, and metrics will be stressed throughout with students working independently with blueprints at the conclusion of the course.	
Pre-requisite: WL-106A	
WL-107	2
Shop Practicum	
Educate students with real world, hands on projects and assemblies in the shop setting to allow for practice in the welding processes and procedures they have learned throughout the class.	
WL-108	2
Internship	
Educate students by placement in work related areas to use the knowledge learned throughout the year. Career based learning will take place with further knowledge attained by seasoned experts in the given field of welding.	
WL-109	2
Pipe Welding	
Orient students on the process of Shielded Metal Arc Welding and Gas Tungsten Arc Welding Procedures using E-6010 filler metal on carbon pipe. Welding will be done in the 1G, 2G and 5G positions. Students will be educated in the keyhole technique for SMAW and walking the cup for GTAW. Safety will be addressed throughout the course. Certification available if applicable weld tests meet AWS/API 1104 standards.	
WL-110	2
Advanced Cutting Processes	
Orient students in plasma cutting, carbon arc gouging and carbon arc cutting. Students will also learn fundamentals of computer numerical control and operate CNC plasma cutting system. Safety will be addressed throughout the course.	
WL-111	2
Advanced Pipe Welding	
Orient students on the process of Shielded Metal Arc Welding and Gas Tungsten Arc Welding Procedures using E-6010 , 7010, ER-80S D-2, ER-308L filler metal on carbon pipe and stainless pipe. Welding will be done in the 1G, 2G, 5G and 6G positions. Students will be educated in the keyhole technique for SMAW and walking the cup for GTAW. Safety will be addressed throughout the course. Certification available if applicable weld tests meet AWS/API 1104 standards.	

Online Courses

NCKTC offers a variety of online classes. Please refer to our website at www.ncktc.edu/onlinecourses for a list of course offerings. **NOTICE:** Once you enroll you will be responsible for payment.

Commercial Driver License

NCKTC's Commercial Driver License program utilizes state of the art simulation training combined with classroom instruction and on-the-road driving time to prepare students to pass the Department of Motor Vehicles Commercial Driver's License Exam. Coursework prepares students for all three classes: A, B and C, as well as endorsement training for tanks, double and triples, hazardous materials, passenger and school bus. Drive Examination will be administered on campus by a State of Kansas Examiner and students will accompany the Examiner to the courthouse for license processing.

CDL 100

1

This course provides the necessary information to successfully acquire a Commercial Driver License and the skills to demonstrate proficiency while operating a commercial motor vehicle. Understanding changing conditions, demands, traffic situations, and hazards are essential in the professional driver's job. Maintaining professionalism and stress levels while operating a large motor vehicle safely are key components of a successful CDL holder. Utilizing classroom hours, audio and visual tools, simulation and actual driving scenarios help prepare the student for receiving a CDL.

CDL 110

1

This course is the lab component accompanying CDL 100. Students will apply skills from the classroom to actual driving experience.

***Available online**

CDL Policies

- Pre-enrollment is required
- All applicants must be at least 18 years of age, have a valid Kansas Driver's License, proof of social security number and valid DOT Medical Examiner's Certificate.
- All tuition and lab fees must be paid prior to the first class session
- CDL courses qualify for Veteran's Administration Benefits

Adult Short Term Courses

AH 010 **5 cr.**
Certified Nurse Aide (CNA)

This course will provide students with training in basic nursing skills needed to assist in a variety of healthcare settings. The course is developed with the Kansas Department of Health and Environment's Kansas Certified Nurse Aide Curriculum Guidelines as the backbone of the course. Course time includes the didactic portion, skills lab time on campus and clinical time in an area long-term care facility.

AH 011 **4 cr.**
Certified Medication Aide (CMA)

This course will provide students with basic training in medications and medication administration. Current Kansas CNA certification is required. Students must pass a reading test demonstrating a reading level at an eighth grade level or above prior to starting the course. The course is developed with the Kansas Department of Health and Environment's Kansas Certified Nurse Aide Curriculum Guidelines as the backbone of the course. CMA's are certified by the State of Kansas to legally be allowed to pass medications under the direct supervision of a Kansas licensed LPN or RN in a variety of long-term care settings, or a mental health care facility. Course time includes the didactic portion, skills lab time on campus, and clinical time in an area long-term care facility.

AH 101 **1 cr.**
CMA Update

The course is designed to update Certified Medication Aides on the new classes of drugs and will fulfill the necessary continuing education requirements for the Certified Medication Aide License.

OSHA 110 **1 cr.**

This course provides a variety of training on construction safety and health to entry level workers. Instruction includes construction industry occupation safety and health modules and promotes workplace safety and health.

NUR 117 **3 cr.**
IV THERAPY for the LPN

This course will enable the student to perform safely and competently the intravenous fluid therapy activities as defined in the Kansas Nurse Practice Act. The course is based on the nursing process and current intravenous nursing standards of practice. The student must be prepared to complete all the pre-clinical requirements for the Department of Nursing.

Prerequisite: LPN with a current Kansas License

HE-120 **1**
Locator Operations-Level I

Locator operation is designed to equip participants with knowledge and skill development for operating locator equipment according to the standards of the equipment manufacturer's operator's manual.

HE-125 **2**
Horizontal Directional Drilling-Level I

This course is designed to equip participants with knowledge and develop skill for basic operation of horizontal directional drilling equipment. The course includes instruction, in-field exercises simulation and professional coaching for the following:

- | | |
|-------------------------|-------------------------------|
| 1. HDD Safety | 5. Drilling Fluids and Mixing |
| 2. Prep-Planning | 6. Downhole Tooling |
| 3. Tracking Electronics | 7. Field Operation |
| 4. Maintenance/Safety | |

Simulation for training will take an operator through modules that must be performed on the Jet Trac® Directional Drilling Simulator.

Health Support Specialist Courses

<u>Course Descriptions</u>	<u>Credits</u>
HS 100 Rehabilitative Aide This course makes the learner aware of the importance of preservation of function of the body. The rehabilitative aide performs restorative duties under the supervision of a registered nurse. The rehabilitative aide helps to improve the residents tasks with daily living and help to provide comfort, safety and well-being to the long term care resident.	2
HS 101 Medical Terminology I This course introduces students to the terms used in the medical field. The course includes words, anatomical terms, and body systems. It also includes conversion tables and written terminology.	1
HS 101A Medical Terminology II This course introduces students to the terms used in the medical field. The course includes words, anatomical terms, and body systems. It also includes conversion tables and written terminology.	2
AH 012 CPR/First Aid/AED This course is designed to prepare individuals to respond to injuries and sudden illnesses that may arise in everyday life. It is designed to give individuals the knowledge and skills to prevent, recognize, and provide basic care for injuries and sudden illness until medical personnel arrive and take over.	1
HS 102 Person Centered Care This course will examine activities in a person-centered nursing home environment. It will focus on the importance of meaningful, individualized activity for residents as well as the roles of all staff members in providing activity. The course will teach participants how to learn about residents, plan, facilitate and evaluate activities. Regulations related to activity and the survey process will be explored.	1
HS 103 Environmental Services Participants will learn to maintain a clean environment by completing housekeeping, laundering, and simple maintenance tasks within the guidelines of facility policies and procedures in addition to the knowledge of State and Federal regulations through a ten hour online OSHA approved training course.	1
HS 104 Dining Services This course utilizes the ServSafe® standardized curriculum. Upon completion of this course the learner is eligible for certification in ServSafe.® The course covers five key areas: basic food safety; personal hygiene; Cross-contamination and allergens; time and temperature; and cleaning and sanitation. These are important concepts that affect the quality of food service in an elder care facility.	1
HS 105 Dementia Care Upon completion of this course the learner should be able to provide care for the confused resident by recognizing characteristics of a confused resident, identifying common behavior problems and stating common interventions for positive behavioral outcomes. In addition, the learner should be able to list the three stages of Alzheimer's disease, describe how tin interact with an Alzheimer's resident and identify at least three ways to care for the Alzheimer's resident.	1
HS 106 Critical Thinking Upon completion of this course the learner should be able to grasp the concept of critical thinking and its key components. The relationship between the nursing process, critical thinking and nursing knowledge will be explained. In addition, applying critical thinking in the workplace will be covered.	1

Secondary Allied Health Hays Campus

Course Code	Course Title	Credits
FIRST SEMESTER:		
AHC 101	Introduction to Health Occupations	1
AHC 103	Basic Science I	1
AHC 202	Medical Terminology	1
SS 100	General Psychology	3*
AH 010	Certified Nurse Aide (CNA)	5
SECOND SEMESTER:		
AHC 201	Advanced Health Occupations	1
AHC 203	Basic Science II	1
SS 105	Human Growth & Development	3*
AH 011	Certified Medication Aide (CMA)	4
	TOTAL	20

Allied Health is a three-hour block course offering at North Central Kansas Technical College for high school seniors as the priority. Juniors are allowed to enter with special permission from their guidance counselors. This year long course includes study in Health Occupations, Basic Science, and Medical Terminology. Students will be able to certify as a CNA and CMA at the conclusion of the course work. In addition, they will become CPR certified and will receive a First Aid certificate from EMS. Students will receive 6 transferable general education college credits (*General Psychology and *Human Growth & Development) if they meet the requirements.

AH 010

Certified Nurse Aide (CNA)

5

This course is designed to train health care assistants in basic skills necessary to assist nurses in a variety of health care settings and to be efficient health care team members. Students will become CPR certified. Kansas Department of Health and Environment Certified Nurse Aide Curriculum Guidelines will be followed. Upon completion of the course, students will be eligible to take the state CNA Examination.

AH 011

Certified Medication Aide (CMA)

4

Medication Aides can provide medications in nursing homes, assisted living centers, intermediate care facilities for the mentally challenged, schools, childcare settings, or patient homes. A Medication Aide is trained to work under the direct supervision of a caretaker or licensed health care professional. They provide routine medication by oral, inhalation, topical and instillation routes when appropriate direction and monitoring is provided. Kansas Department of Health and Environment Certified Medication Aide Curriculum Guidelines will be followed. Upon completion of the course, students will be eligible to take the state CMA examination.

AHC 101

Introduction to Health Occupations

1

This course provides an overview of the different healthcare facilities and the government agencies overseeing them. A brief introduction is given for different healthcare careers. Personal and professional qualities of healthcare workers along with legal responsibilities involved are introduced. The allied health student will gain an understanding of basic business and accounting skills, scheduling and appointment skills, filing and completing medical records. The course covers the history of health care, current trends, and legal responsibilities.

AHC 103

Basic Science I

1

This course will introduce the student to effective communication techniques. The allied health student will gain an understanding of the various life stages of individuals from birth to the end of life. A holistic approach will be utilized which will encompass bio, psycho, social and spiritual needs of each stage of life. The student will gain an understanding of basic principles of infection control that is essential for any healthcare worker in any discipline of healthcare. The principles described will provide a basic knowledge of how disease is transmitted and main ways to prevent disease transmission.

- AHC 201** **1**
Advanced Health Occupations
This course introduces different healthcare careers along with the educational requirements required for each. In addition, guest speakers will be utilized. Current trends in healthcare will be reviewed. Basic first aide procedures are learned and a certificate will be issued by EMS. Aspects on nutrition will be covered in relationship to health maintenance. Students will be prepared for the work force by concentrating on job skills development.
- AHC 202** **1**
Medical Terminology
This course will coordinate with Basic Science II. Students will gain an understanding of body structures and how medical terms are based from combining forms and abbreviations.
- AHC 203** **1**
Basic Science II
This course will build upon the concepts learned in AHC 103. Medical terminology relating to all disciplines of healthcare will be explored in depth. Infection control, communication and safety issues will be reviewed.

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