2024-2025

Student Handbook & College Catalog

MANHATTAN **TECH**

welcome to
MANHATTAN *TECH*

DEAR STUDENTS & FRIENDS OF MANHATTAN TECH,

Welcome to Manhattan Area Technical College. On behalf of the faculty and staff, board members and alumni, we are pleased that you have considered our college to help you prepare for the future. Manhattan Area Technical College has a proud record of providing career and technical education opportunities for the citizens of Kansas and people of the world. Whether you are entering as a first-time freshman, a transfer student with some college experience or a degree, or are returning to college from the workplace to enhance your skills and education, you are welcome here! Manhattan Tech is a student-centered institution dedicated to academic endeavors that meet the high standards demanded by employers within our service area and beyond.

Manhattan Tech has many ways to help you, so please let any employee know if you need assistance. We know that learning from your classes and program of study is often enough to challenge you, but we also know that the challenges of life often present themselves while you work on becoming a nurse, technician, etc. We can help you develop options to keep you focused on your educational goals and your timeline for success.

You will find that the sense of family at Manhattan Tech moves beyond the classroom and into the community. Our students are regularly involved in activities, both on and off campus, which benefit Manhattan and the surrounding areas. Students are encouraged to take advantage of leadership opportunities in order to better prepare themselves for similar roles that await them in the future.

Come by and visit, give us the chance to sell you on Manhattan Area Technical College!

James D. Genandt

James Genandt
President and CEO

2024-25 ACADEMIC CALENDAR

2024 FALL SEMESTER

AUGUST

9	College In-Service | **CLOSED AT 11AM**
15	Final Add Day
19	Fall Semester Begins | Tuition and Fees Due
29	Advanced Technology Center Official Ribbon Cutting

SEPTEMBER

2	Labor Day | **COLLEGE CLOSED**
16	Financial obligation deadline (See page 34)

OCTOBER

11	Last day to adjust financial aid
14	Start of 2nd 8-week Courses

NOVEMBER

25-29	Thanksgiving Break | **COLLEGE CLOSED**

DECEMBER

2	Classes Resume
9-13	Final Exams
14	Nursing Pinning & Commencement
23-31	Holiday Break | **COLLEGE CLOSED**

2025 SPRING SEMESTER

JANUARY

1-3	Holiday Break | **COLLEGE CLOSED**
6	College Open
10	College In-Service | **CLOSED AT 11AM**
16	Final Add Day
20	Martin Luther King Day | **COLLEGE CLOSED**
21	Spring Semester Begins | Tuition and Fees Due

February

17	Financial obligation deadline (See page 34)

2025 Spring Semester continued

MARCH

7	Last day to adjust financial aid
17-21	Spring Break | **NO CLASSES**
21	**COLLEGE CLOSED**
24	Classes Resume
26	Career Fair
	Start of 2nd 8-week Courses

MAY

12-16	Final Exams
16	Nursing Pinning & Commencement
17	Commencement
26	Memorial Day | **COLLEGE CLOSED**
31	Final Add Day

2025 SUMMER SEMESTER

JUNE

2	Summer Semester Begins | Tuition and Fees Due
13	Financial obligation deadline (See page 34)
19	Juneteenth | **COLLEGE CLOSED**

JULY

4	Independence Day | **COLLEGE CLOSED**
7	Classes Resume
25	Summer Semester Ends

Note: This calendar is accurate at the date of printing. Manhattan Area Technical College reserves the right to modify the calendar as necessary. Students, prospective students, and employees will be notified of changes as soon as possible. For most current dates refer to calendar on Manhattan Tech website.

For tuition refund dates, please refer to the Enrollment Management Calendar on manhattantech.edu and the Tuition Refund Policy on page 35 of the catalog.

COLLEGE FACULTY AND STAFF

BOARD OF DIRECTORS

Board Chair
Timothy Flanary - Pottawatomie County

Board Vice Chair
OPEN

Board Members:

Julie Noah - Clay County

Heather Peterson - Pottawatomie County

David Urban - Riley County

Brett Ballou- Riley County

John Armbrust - Riley County

EXECUTIVE LEADERSHIP

President/CEO
James Genandt, Ph. D

Chief Financial Officer
Cara Prichard, CPA

Vice President of Operations
Josh Gfeller, AAS, SME-IT

Special Advisor to the Office of the President
Pamela Imperato, PhD

DEANS

Dean of Advanced Technologies
Kerri Bellamy, MCJ

Dean of Academic Partnership and Outreach
Chris Boxberger, MS

Dean of Nursing Education & Health Programs
Kim Davis, MSN, RN

Dean of Student Services
Neil Ross, MS

ACADEMIC AFFAIRS

Coordinator of Executive Leadership
Suzy Baker

Director of Academic Resources
Darren Ortega

Director of Early Childhood Education
Lisa Isaacson

Director of Institutional Research and Effectiveness
Kim Withroder

Insitutional Research Coordinator
Randal Geringer

IR Academic Coordinator
Casey Field

Nursing & Health Programs Administrative Assistant
Chanel Williams

Registrar
Steve Davis

REGIONAL TESTING CENTER

Regional Testing Center Director
Cindy Boxberger

Proctoring Generalist
Emmiley Springfield

ACADEMIC ADVISING

Academic Advisor
Beth Dugan ••

Academic Advisor
Steffan Ryan

Academic Advisor
Lauren Rust

FINANCIAL AID

Director of Financial Aid
Laura Weiss-Cook

Financial Aid Counselor
Sicilee Shannon

ADMISSIONS

Director of Admissions
Michelle Mackeprang

Admissions Coordinator
Rose Chapman

Employee changes may occur and may not be reflected in this catalog until the newest version is produced. For up to date listing of faculty and staff please refer to the website: www.manhattantech.edu/directory

•• Graduate/completion of certificate or Associates Degree from Manhattan Tech or previous Vocational Tech.

COLLEGE OPERATIONS

Business Office Coordinator
Julia Strength

Custodial Specialist
Benita Fernandez

Custodial Specialist
Charlotte Channel-Smith

Database Report Writer
Michelle Mueller

Head of Maintenance
Russell Chrest ••

Helpdesk Technician
Riley Payne ••

Human Resources Coordinator
Peter Vopata

Maintenance Specialist
Jadon Woogerd

Marketing Coordinator
Bryant Kniffin

Network Administrator
Bryanna Marihugh ••

Security Officer
Jaquayle Moore

Student Account Specialist
Lee Van Horne

System Admin/Facilities Project Coordinator
Andrew Caponera ••

Wamego Center Coordinator
Suzanne Duncan

Welcome Center Attendant
Rick Duvendack

EDUCATORS

Adult Education Instructor
Janae Haskell, MA

Adult Education Instructor
Lindsay Woods, BSE

Adult Education Instructor
Michelle McRay

Air Conditioning & Refrigeration Instructor
Allen Sangwin, BS

Air Conditioning & Refrigeration and Construction Technology Program Assistant
Greg Cranford, BSME

Allied Health & Continuing Education Director
Mark Ballinger, BSN RN, CCMA, CMAA, EMT

Automotive Technology Instructor
Alex Anderson, AAS, ASE Master

Automotive Technology Instructor
Jaren Nittler, BSE, ASE Master ••

Automotive Technology Instructor
Jeff Pishny, AAS, ASE Master ••

Biology Instructor
Matt Schacht, MS

Bioscience Lab Facilitator
Marnie Clayton

Business Administration Instructor
Jason York, J.D., M.Acc

Chemistry Instructor
Chelsea Weese, MS

Communications Instructor
Rachel Ohmes, MS

Construction Technology Instructor
Ed Zahler, BBA

Electric Power & Distribution Instructor
Justin Meuli, AAS, Journeyman Lineman

Industrial Engineering Technology & Critical Environment Technology Instructor
Mark Miller, SME-IET

Program Assistant
Mike Boxberger, BS

Mathematics Instructor
Brian Koch, MS

Medical Laboratory Technology Coordinator
Marcey Fickbohm, MS, MT(ASCP)

Nursing Instructor
Jennifer Cupery, BSN, RN, CHPN

Nursing Instructor
Deirdre Greeley, MSN, RN

Nursing Instructor
Easlyn Koch, BSN, RNC-OB, RNC-MNN

Nursing Instructor
Cindy Sias, BSN, RN ••

Nursing Instructor
Bradi Tucker, BSN, RN

Welding Instructor
Jacob Boley, AAS, AWS Qualified

Welding Instructor
Thomas Mudd, AWS Qualified

MANHATTAN *TECH*

OUR **MISSION**

Manhattan Area Technical College provides high quality technical, general, and adult education to prepare individuals to pursue technologically advanced careers and lead productive lives in a dynamic and diverse global environment.

VISION **STATEMENT**

As a leader in technical education, Manhattan Area Technical College will enhance student-centered learning and service to business, industry, and community members.

COLLEGE **VALUES**

Providing HIRE Education - Helping Ignite & Revolutionize Education
The values of the College community drives the vision and mission of Manhattan Tech.

HELPING IGNITE the ambition and passion:
- in our students through self-advocacy
- in our faculty and staff by providing student centered support
- of our community by supporting regional workforce needs.

REVOLUTIONIZE EDUCATION through:
- active learning with hands-on instruction from day one
- faculty delivering cutting-edge industry driven expertise
- inspiring innovative lifelong learning.

COLLEGE **OBJECTIVES**

The objectives of Manhattan Area Technical College are to:
- Offer Associate of Applied Science degrees and Technical Certificates upon completion of programs and courses in technical fields to meet student, employer, and community needs.
- Complement technical instruction with general education courses emphasizing critical thinking, problem solving, and communication skills.
- Create opportunities in technical education for secondary education students through articulation agreements and concurrent credit.
- Provide student services to include counseling, financial aid, skill enhancement and assessment, employability preparation, and student-directed activities.
- Assess student performance and outcomes to enhance learning.
- Allocate resources to ensure a safe, accessible, and student-friendly learning environment.
- Monitor integrity through interaction with program advisory councils, a general advisory council, and evaluation by approving agencies.
- Serve as a valued community leader and partner in the educational, economic, and workforce development of our service area.

GENERAL EDUCATION PHILOSOPHY

General education is an essential element of a student's education. It provides a foundation for lifelong learning and is woven into learning opportunities at MATC.

General education refers to subject matter that is foundational in nature and may be infused into all disciplines of study. Concepts to enhance and support the overall educational experience provided at MATC.

To support the philosophy general education in the learning experience of our student the College has implemented the MATC Core Abilities Assessment Process that measures Written and Oral Communication, Quantitative Literacy, and Critical Thinking and co-curricular experiences to provide leadership development opportunities. Together, these elements following are designed to foster students' ability to:

- Use the English language effectively to read, write, speak, and listen critically
- Use systematic, critical, and creative processes to identify problems and make decisions
- Develop knowledge of self and a capability for self-direction and self-motivation
- Analyze and assess personal values and life goals that affect decision-making and relationships in a global community
- Perform the mathematical computations necessary to succeed as an employee and as a consumer
- Demonstrate proficiency in gathering, analyzing, and synthesizing information
- Increase an understanding of individual and group differences

Upon graduation, students should be proficient in:

- Communicating effectively in written and oral forms;
- Critical thinking and problem solving to address situations described verbally, graphically, symbolically, or numerically;
- Identifying, accessing, and evaluating information and materials;
- Gaining knowledge of self and demonstrating ability to work with others independently and in teams, and;
- Exhibiting tolerance of and respect for diversity in human abilities, cultures, age, and beliefs.

Within the technical programs, faculty members strive to reinforce and enhance student learning by providing opportunities that require students to apply skills acquired in general education components to "world of work" problems in their classrooms.

PHILOSOPHY OF ASSESSMENT

Manhattan Tech's faculty and staff are committed to a comprehensive institutional assessment program that promotes continuous improvement in all aspects of programs and services critical to the success of the College. Convinced that learning-oriented effectiveness is of primary importance in meeting the institution's mission, the faculty has placed an emphasis on the assessment of student learning.

Manhattan Tech also recognizes the importance of assessment and improvement activities related to organizational structure. These activities, which are designed to complement the assessment of student learning and enhance the planning and implementation of strategic initiatives, as well as the operational functions of the College, are executed as part of a comprehensive plan.

Demonstrating ongoing institutional improvement is necessary to ensure the continuing success of Manhattan Tech. Manhattan Tech is strengthened by its ability to respond quickly and effectively to changing student and stakeholder needs through a systematic and well-practiced methodology involving assessment, evaluation, and action to address the identified opportunities for improvement. This allows the College to compete in an educational arena where prospective students have a myriad of options.

In addition, as legislative bodies and accrediting organizations search for ways to enhance accountability among educational institutions, the documentation produced by this ongoing improvement process facilitates the reporting required for compliance with these regulatory and oversight agencies.

PRINCIPLES OF COMMUNITY

Manhattan Area Technical College is an environment dedicated to the teaching and learning of professional and technical skills in an increasingly diverse and ever-changing environment. MATC is a place where all people, regardless of age, sex, gender identity, sexual orientation, ability, marital or family status, race, religion, national origin, political affiliation, and military or veteran status may learn a living. Students, staff, faculty, and administration seek to empower all persons to contribute to their families, communities, and societies. In the spirit of creating and maintaining a professional and respectful space for all who come here to learn and teach, we—students, staff, faculty, and administration—acknowledge the following:

- We come to Manhattan Tech with different experiences, expectations, values, and practices
- Some of our differences are visible, others are not
- Our differences may create misunderstandings, fears, and hurt feelings
- We must work together to create mutual understanding
- We strive to overcome the negative consequences of our differences
- We seek to celebrate our shared humanity and shared goals
- We accept responsibility for creating a learning/work environment where our differences are valued and mutually accepted
- We agree to respect everyone's right to have personal beliefs and opinions without fear of public condemnation
- We agree to reject prejudice, discrimination, and intolerance in the Manhattan Tech community

See Diversity policy 3.7.1 for further details.

MANHATTAN TECH **HISTORY**

In 1963 Kansas legislation was passed that provided for vocational-technical education. Senate Bill 438, in conjunction with the National Education Act (SB 4955), approved the establishment of a number of vocational-technical schools and community colleges in the state. The Board of Education of the Manhattan public schools, acting on this newly created opportunity, submitted the appropriate application to the Kansas State Board of Education, which then established the Manhattan Area Vocational-Technical School (MAVTS) in 1965. By 1967, the original building at the current site was completed. In 1992 the school was renamed Manhattan Area Technical Center.

In 1994 legislation was passed (Kansas Senate Bill 586, amended K.S.A. 72-4412) allowing technical schools to apply for conversion to technical colleges. Manhattan Area Technical Center received approval from the state to make this change in 1996 and became Manhattan Area Technical College (MATC).

July 1, 2004, the College's governing structure became autonomous and, for the first time in its history, MATC had its own Board of Directors . Additionally in 2004, MATC received continuing candidacy status from the HLC and obtained full accreditation status in 2006.

SERVICE **TERRITORY**

Since its establishment, Manhattan Area Technical College has primarily served an area of Kansas that includes citizens and communities in ten counties including Clay, Dickinson, Geary, Marshall, Morris, Nemaha, Pottawatomie, Riley, Wabaunsee, and Washington. Manhattan Tech provides advanced education and technical preparation to students from communities all over Kansas as well as other states. The College's immediate service area, from which the Board of Directors is drawn, includes Clay, Dickinson, Geary, Marshall, Pottawatomie, and Riley counties.

ACCREDITATION

Manhattan Area Technical College is accredited by the Higher Learning Commission (hlcommission.org), a historically regional accreditation agency recognized by the U.S. Department of Education.

Kansas Board of Regents
www.kansasregents.org

U.S. Department of Education
http://www.ed.gov

Other program-specific accrediting/approving/certifying agencies are:

Accreditation Commission for Education in Nursing
www.acenursing.org

Kansas State Board of Nursing
www.ksbn.kansas.gov

Kansas Department for Aging and Disability Services
www.kdads.ks.gov

ASE Education Foundation
info@ASEeducationFoundation.org

National Accrediting Agency for Clinical Laboratory Sciences
www.naacls.org

Kansas Board of EMS
www.ksbems.org

ADMISSIONS

College Admission Requirements

To be accepted to Manhattan Tech and placed in a program, students must meet the admissions requirements of the College and the requirements established for each program. College requirements are as follows:

1. Complete an application for admission and submit a non-refundable application fee (found online at manhattantech.edu).
2. Provide satisfactory placement test scores or transcripts showing math and English college coursework. Refer to placement testing for more information.
   - Placement scores are valid for three years. To satisfy admission requirements, scores in writing, reading, and math must be valid on the first day of the admitted term.
   - Transcripts indicating proof of college credit level English and math courses (not developmental or transitional courses) will be considered only with grades of "C" or higher.
3. Submit a final, official high school transcript from an accredited or approved institution or an approved official high school equivalency score report prior to admission.

Admission to Manhattan Tech is open to anyone without regard to race, color, ethnicity, creed, religion, age, gender, disability, military status, national origin or ancestry, marital status, pregnancy, actual or perceived sexual orientation, gender identity and expression, status with regard to public assistance, or any other status or condition protected in accordance with federal or state law.

Selective Admission Requirements

Admission to Manhattan Tech does not guarantee enrollment in any specific course or program. Courses or programs may have size limitations, prerequisite/co-requisite requirements or other rules regulating enrollment. Additionally, Selective Admissions Programs have a limited number of openings each year and have specific entry level admission requirements that must be met prior to selection for admission to the program.

Students should consult the website link provided for specific programs: **manhattantech.edu/Selective-Admissions**

Exceptions

Admission to Manhattan Area Technical College is granted based on the preceding criteria. In cases where special consideration is needed, the ultimate decision regarding the admission of a student rests with the Director of Admissions or designee.

Admission Status

Students are classified as one of the following upon applying for admission: First-Time Freshman, Returning Student, Transfer Student, High School Dual Enrollment, Non-Degree Seeking, and Visiting Student.

First-Time Freshmen Students

A first-time freshman is a first-time student who has never attended a regionally accredited institution other than as part of a dual enrollment program. Students under this status will need to meet all the College admission requirements described above.

Returning Students

A returning student is someone who has previously attended Manhattan Tech, but who has not attended during the most recent semester excluding the summer semester. Returning students are subject to any curriculum, program, assessment score requirements, and/or catalog changes and may be required to reapply to programs with selective admissions requirements.

Returning students must:
- Re-submit any documentation required for a completed application.
- Meet the admission requirements for the program of application.
- Pay any outstanding balances prior to readmission.

Nursing students seeking readmittance should refer to the nursing readmission requirements to determine appropriate next steps.

Transfer Students

A transfer student is one who has attended another regionally accredited college or university prior to Manhattan Tech. Transfer students are encouraged to submit an official transcript from all previously attended institutions of higher learning so that the College can determine appropriate course placement and degree progress through the awarding of transfer credit.

High School Dual/Concurrent Enrollment

High school dual/concurrent enrollment is when a high school student attends Manhattan Tech during their sophomore, junior, or senior years of high school and takes courses for which earns them both college and/or high school credits for each course taken.

Admission/Enrollment Guidelines for Concurrent Credit/Dual Credit for High School Students:

- Students must be classified as a sophomore, junior, or senior in high school.
- Students must have a cumulative GPA of 2.0 for Career and Technical Education courses and 3.0 for general education courses.
- Students must take the ACCUPLACER to enroll in English Composition I and/or math courses. To schedule a placement test, visit www.manhattantech.edu/proctor
- Students are required to submit their completed Concurrent Enrollment Form each semester they plan to enroll in courses. Students should check with their guidance counselor or the Manhattan Tech website for specific dates/deadlines, enrollment forms, and payment information.

For additional information refer to www.manttantech.edu/concurrent

High school students wishing to enroll in courses held on campus at Manhattan Tech or online who are not obtaining Dual Credit will follow standard entrance specifications. Refer to General Admission Requirements for those guidelines.

Please note: these guidelines also apply to homeschooled students receiving dual credit. Courses that a student fails or withdraws from while enrolled as a high school student may affect a student's GPA or their ability to qualify for financial aid after graduating from high school.

Non-Degree Seeking Student

A student enrolled at Manhattan Tech with the intention of completing credit-bearing coursework but is not seeking to earn a credential or degree. Non-degree seeking students are not required to pay an application fee. To become a non-degree seeking student, applicants must complete the non-degree seeking (NDS) application for admission. The College may request official transcripts or test scores to meet pre-requisite requirements. For enrollment in subsequent terms students may complete another NDS application or meet with an academic advisor. Non-degree seeking students are ineligible for certain types of financial assistance.

Visiting Student

An applicant who is currently attending another college or university but plans to attend Manhattan Tech for one semester/session only and to return to their home institution for the following semester. To become a visiting student, applicants must complete the non-degree seeking application for admission. Visiting students are not required to pay an application fee. The College may request official transcripts to meet pre-requisite requirements. To receive transfer credit at students' respective institution, students must complete the "Request a Manhattan Tech Transcript" process. Visiting students are ineligible for certain types of financial assistance.

Information for International & Undocumented Students

Manhattan Area Technical College is NOT a Student and Exchange Visitor Program (SEVP) certified institution and does NOT participate in the Student and Exchange Visitor Information System (SEVIS), or the F, J or M visas programs. We are not an I-20 institution.

Any Manhattan Tech student who is not a U.S. Citizen or Lawful Permanent Resident is considered to be an international student. To avoid immigration status violations, you should make sure your status allows you to study in the U.S. You can check here: Nonimmigrants: Who Can Study?

International Transcripts & Information

It is the responsibility of the student to have their international high school or collegiate transcript evaluated by an authorized International Transcript Credential Evaluation service for Manhattan Tech to accept and process the transcript. Students are responsible for all costs for this service.

Authorized International Transcript Credential Evaluation Centers include but are not limited to:

- Center for Educational Documentation, Inc.
  Telephone: (512) 687-3885   Fax: (512) 692-9677   Email: info@cedevaluations.com   Website: http://www.cedevaluations.com
- Academic Credentials Evaluations Institute, Inc.
  Toll Free: (800) 234-1597 (USA only)   Telephone: (310) 275-3530   Fax: (310) 275-3528   Website: http://www.acei1.com
- World Education Services Telephone:
  (212) 966-6311 Fax: (212) 739-6100 Website: http://www.wes.org
- Educational Credential Evaluators, Inc.
  Telephone: (414) 289-3400 Fax: (414) 289-3411 Email: eval@ece.org Website: https://www.ece.org
- Global Credential Evaluators, Inc.
  Telephone: (800) 707-0979 Fax: (979) 690-6342 Website: http://www.gceus.com

Manhattan Tech does not have an International Student Office and does not process I-20 Forms for F-1 or M-1 Type 3 Student Visas.

Undocumented Postsecondary Students

Non-U.S. citizens without proper documentation are not eligible for federal financial aid. Undocumented non-U.S. citizens are eligible to apply for admission to Manhattan Tech if they meet the following Kansas state requirements:

Provide records that they attended an accredited Kansas high school for three or more years and graduated from an accredited Kansas high school or obtained a GED diploma in Kansas.

File an affidavit with Manhattan Tech stating that they have filed an application to legalize their immigration status or filed for US citizenship or that their parents have filed such an application. Affidavits are available in the Student Services office.

Fulfill all college and program requirements for admission before admission is granted.

Undocumented High School Students

Undocumented, non-citizen high school juniors and seniors may enroll in Manhattan Tech programs that accept secondary students if they are attending and are lawfully enrolled in a Kansas high school and fulfill all other college entrance requirements.

English Proficiency

We recognize that individuals come from diverse backgrounds and have varying levels of English proficiency. This requirement seeks to provide equitable opportunities for students to succeed academically while also allowing them to pursue technical program courses.

If your first language is not English or if you graduated from a non-English speaking school, applicants must provide evidence of English proficiency by meeting one of the standards below.

	TOEFL	IELTS
Reading	19	6.5
Writing	20	5.5
Listening	20	6.5
Speaking	20	6.5

Note: The College recognizes there are a variety of valid English proficiency tests, such as, TABE CLAS-E, which will be evaluated on an individual basis. Results should be sent to the Admissions office.

Examination

Meet the minimum scores as defined by Manhattan Tech using the TOEFL (http://www.ets.org/toefl) or IELTS (http://www.ielts.org)

Prior Education

- Completion of a high school diploma, GED, or its equivalent from an accredited U.S. high school or a secondary school in a country where English is the language of instruction.
- A grade of "C" or better in an intermediate ESL or college-level English course taken at an accredited English-speaking post-secondary institution.
- Graduation from a regionally accredited English-speaking post-secondary institution.

Note: Students who do not meet the above standards are encouraged to meet with our admissions office to explore available options for English as a Second Language (ESL) services on our campus, as well as potential dual enrollment opportunities. Special circumstances that fall outside the requirements can be submitted using the English Proficiency Waiver Request Form. The admissions team will review these exceptions along with your detailed explanation and respond within 5-7 business days regarding the waiver decision.

Placement Testing

Students must qualify to enroll in writing and math courses through meeting college placement multi-measures assessment criteria. College placement assessments are given at various times throughout the school year and can be scheduled through the Teaching & Learning Center online at www.manhattantech.edu/proctor. Students taking assessment testing for the first time will incur no cost for the exam if they are seeking enrollment at Manhattan Tech. Anyone retesting for Manhattan Tech will be charged $10.00 per assessment. Placement in English and Math courses is determined by completion of college placement assessment, ACCUPLACER. Students who have ACT scores within three years of their Manhattan Tech enrollment date may use those scores in conjunction with their placement test in the evaluation process to determine placement in general education courses.

An official copy of ACT scores must be sent to Manhattan Tech to be considered. To schedule a placement test, visit: www.manhattantech.edu/ACCUPLACER

Equivalent courses transferred into Manhattan Tech may satisfy the required English and Math placement assessments. Students must have earned a grade of "C" or higher from an accredited institution, and an official transcript must be sent to Manhattan Tech to be considered. Additional information for other course credit options can be found in the Student Resources section.

Acceptance into Manhattan Tech Programs

After completing admission requirements, applicants will receive notification of acceptance into their program of study via email and mail at the address provided on the application. Students should reference programs of study for specific admission criteria. Acceptance is contingent upon the applicant's completion of admission and program requirements, as well as attendance at program orientation. Students who do not attend program orientation risk forfeiting their spot, and seat deposit (if applicable), in their selected program to a student on the stand-by list, who attended program orientation.

Applicants to the nursing program should be aware that certain criminal convictions could deny or restrict access to a Kansas nursing license. Specific information about these convictions is identified in Kansas law (KSA 65-1120). Please contact the Kansas State Board of Nursing (785.296.4325) with any questions. Manhattan Tech reserves the right to alter or cancel courses and or programs. This could occur anytime during the pre or post acceptance process and/or during any school term.

An admission decision is considered official upon notification to the student. Manhattan Tech may rescind an admission decision for any of the following reasons:

*   Inaccurate information submitted in the application process.
*   High school transcripts not submitted, as required.
*   Any other required documentation not submitted.
*   Significant changes in qualifications after admission is offered, for example, if a student's disciplinary or criminal background changes.

Additional Requirements and Notices

Special Licensing Requirements

Students will need to meet additional admission requirements for technical diplomas and associate degrees connected to state or national licensing or governed by specific state regulations. Call Admissions for additional details.

Social Security Numbers

Each entering student is to provide a Social Security Number upon enrollment. No student may receive financial aid from any federally funded program or be employed by the College without a Social Security Number on file. Social Security Numbers are used for required measures per compliance and identification for tax document purposes only. New students to Manhattan Tech are assigned a computer-generated student ID number that appears on their student ID card.

Tuberculosis Screening Questionnaire

Tuberculosis, also known as TB, is a bacterial infection that attacks the lungs and, sometimes, other parts of the body. It spreads when someone infected with the disease coughs or sneezes and the bacteria is inhaled by someone nearby. Manhattan Tech requires ALL students to complete a Tuberculosis Screening Questionnaire, per Kansas Statute KSA 2009 Supp. 65-129, to aid in prevention and control of Tuberculosis as required by the State of Kansas Department of Health & Environment.

Health Insurance Portability and Accountability Act of 1996

The HIPPA notice describes how student medical information may be used and disclosed. Please review it carefully. If students have any questions, please contact the Student Services Office. The College is required by law to keep student medical information private, provide this notice of our legal duties and privacy practices with respect to student medical information, and follow the terms of the notice that is currently in effect. Manhattan Tech may use and disclose medical information for treatment in emergency situations, as well as disclose information to administrators and academic counselors to support academic progress.

Students have the right to look at medical information the College uses, and/or have a personal representative assist in reviewing medical information. If a student believes the information in their records to be incorrect or incomplete, they have the right to request the College amend the records. Students also have the right to a list of those instances where the College has disclosed medical information, other than for treatment, payment, healthcare operations, or disclosure was specifically authorized.

Manhattan Tech reserves the right to change the terms of this notice at any time. Changes will apply to medical information the College already holds, as well as new information received after the change occurs. If Manhattan Tech revises their notice, they will post the updated notice. Students may request a copy of the current notice at any time.

The Family Educational Rights & Privacy Act of 1974 (FERPA)

The FERPA affords students certain rights with respect to their education records. Manhattan Tech complies with the FERPA by using the following policy regarding access to, and protecting the confidentiality of, student records. For more information, call 800-729-6222 (KS only) or 620-432-0302.

Upon written request to the Registrar, any student of Manhattan Tech will be granted access to any or all records pertaining directly to said student. Access to records will be granted no more than forty-five (45) days following such request. If information in these records is found to be inaccurate, misleading, or detrimental to the student, the student can request, in writing, an amendment to the record, clearly identifying the portion of the record to be changed, and specifying why it should be changed. If the College denies the record amendment request, the student will receive written notification of the decision. The student can appeal this decision through the College grievance process.

No personally identifiable records from Manhattan Tech will be released to parents, spouses, or others without the expressed, written consent of the student. Within the provisions of the FERPA, access will be granted to the following individuals/entities without the consent of the student:

- school officials, including teachers and administrators, who have a legitimate educational interest
    - A school official is a person employed by the College in an administrative, supervisory, academic or research, or support staff position (including law enforcement or security unit personnel and health staff); a person or company with whom the College has contracted as its agent to provide a service instead of using College employees or officials (such as an attorney, auditor, or collection agent); a person serving on a Manhattan Tech College Board; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing their tasks.
    - A school official has a legitimate education interest, if the official needs to review an education record in order to fulfill his or her professional responsibilities for the College.
- officials of schools to which the student wishes to transfer
- authorized representatives of the Comptroller General of the United States, the Secretary of Education, or an administrative head of an education agency
- in connection with the student's application, receipt of or continued eligibility/status for financial aid, or court order.

Should a student owe the College any delinquent amount, official records will not be released to the student or any third party. However, this does not preclude the student from personally reviewing his/her records and challenging any of the information.

Financial aid transcripts may be sent at the request of other institutions.

Students have the right to file a complaint with the US Department of Education concerning alleged failures by the College to comply with the requirements of FERPA. Correspondence may be directed to:
Family Policy Compliance Office
US Department of Education
600 Independence Avenue, S.W.
Washington, D.C. 20202-4605

Directory Information

FERPA regulations as defined by the U.S. Department of Education "directory information" is defined as information contained in the education records of a student that would not generally be considered harmful or an invasion of privacy if disclosed. FERPA permits Manhattan Tech to limit the disclosure of directory information, and to use its discretion when choosing whether to release directory information to specific parties, for specific purposes, or both. In the exercise of that authority, Manhattan Tech may release directory information to college employees/trustees and on-campus publications designed to promote student achievement, events, or otherwise serve to advance the interest and image of the College (e.g. graduation programs, etc.).

The College designates the following as directory information:

- Student name
- Address
- Telephone number
- Email address
- Major fields of study and classification
- Full- or part-time status
- Degrees, awards, and honors received

Students who wish to prevent disclosure of directory information must inform the Registrar in writing. Students who submit this request should note this action will exclude their name from certain college publications.

Title IX

The College adheres to all federal, state, and local civil rights laws prohibiting discrimination and harassment in employment and education. The College does not discriminate in its admissions practices, employment practices, or educational programs or activities based on sex, except as may be permitted by law. As a college of federal financial assistance for education activities, College is required by Title IX of the Education Amendments of 1972 (Title IX) to ensure that all its education programs and activities do not discriminate based on sex. Sex includes sex, sex stereotypes, sex characteristics, gender identity, sexual orientation, and pregnancy or related conditions. Sex discrimination is prohibited under Title IX and by College Policy, and it includes sex-based harassment, sexual assault, dating and domestic violence, stalking, quid pro quo harassment, hostile environment harassment, disparate treatment, and disparate impact.

College also prohibits retaliation against any person opposing discrimination or harassment or participating in any internal or external investigation or complaint process related to allegations of sex discrimination. More about Title IX can be found at Manhattantech.edu/TitleIX

Reports of misconduct, questions regarding Title IX, and concerns about noncompliance should be directed to the appropriate individual below.

for student allegations:
Neil Ross, Dean of Student Services/Title IX/504 Coordinator
Main Office, Room 101 C
3136 Dickens Ave
Manhattan, KS 66503
785-320-4554
TitleIX@manhattantech.edu

for employees allegations:
Peter Vopata, Human Resource Coordinator
Deputy Title IX Coordinator
Office 107B
3136 Dickens Ave, Manhattan, KS 66503
Phone: 785-320-4574
Email: humanresources@manhattantech.edu

Manhattan Tech's Title IX Coordinator and designees are trained in Title IX regulations and responding to reports of sexual misconduct and harassment.

Notice of Non-Discrimination

The Manhattan Tech Board of Directors supports and complies with Title VI and Title VII of the Civil Rights Act of 1964 as amended, Section 504 of the Rehabilitation Act of 1973 and Amendments, The Americans with Disabilities Act, Title IX and all requirements imposed by or pursuant to the regulations of the Department of Health and Human Services and the Department of Education. It is the policy of the Board of Directors that no person in the United States (on the grounds of gender, race, color, national origin, disability, sexual orientation, gender identity, religion, age, genetic information, parental status, military status, or veteran status) shall be excluded from participation in, denied the benefit of, or otherwise subjected to discrimination under any program or activity of, or employment with, Manhattan Area Technical College.

STUDENT RESOURCES

Academic Advising and Course Schedules

All students at Manhattan Tech are assigned an academic advisor. Students accepted into the Associate Degree Nursing, Medical Laboratory Technology, or Practical Nursing programs will additionally be advised by the program faculty. It is the student's responsibility to initiate and prepare for advising appointments.

Advisors may assist students in the following areas:
- course placement based on multiple measures (i.e. Accuplacer, ACT, High School GPA, etc.)
- goal setting
- campus and program information
- referrals to campus resources
- interpreting institutional policies, procedures, and requirements

Students share responsibility for a positive and successful college experience and are expected to participate by:
- attending program orientations
- knowing academic policies and procedures
- knowing academic calendar deadlines and degree/program requirements
- consulting with an advisor when necessary and taking action when recommendations are made
- scheduling and keeping appointments with advisors

In planning a class schedule, the student should keep in mind the degree and graduation requirements of Manhattan Tech. The final responsibility for correct course selection lies with the student.

Non-degree seeking students may request an advisor assignment by contacting the Student Services Office.

Catalog Policy

Enrolling students follow the provisions of the catalog in use at the time of enrollment. When students interrupt their continuous attendance for one semester or change their degree or certificate programs, they will become subject to the provisions of the catalog current with their next enrollment. The catalog is not a contract. Manhattan Tech may make changes in the catalog including changes in academic program requirements. Any significant changes will be posted on the Manhattan Tech website after official online publication. This publication should not be considered a contract between Manhattan Area Technical College and any student. Manhattan Tech retains the right to make changes in programs, course offerings, policies, graduation requirements, tuition, fees, and refunds without notice.

Registration

Enrollment opens at least two months prior to each term. Classes fill quickly, therefore, students are encouraged to enroll as early as possible for the best class selection. Students may enroll up to the Final Add Day (FAD), which typically falls on the Thursday before the first day of classes each semester.

Student Responsibility

Students are responsible for meeting all requirements for graduation as set forth in this catalog. Advisors assist in the planning for a degree program for each student; however, the final responsibility for meeting requirements for graduation lies with the student.

Reservation of Rights

Manhattan Area Technical College reserves the right to revise, add, or delete courses and programs; alter the total number of class hours; suspend, cancel, or postpone classes and programs; and/or alter the modality of courses and programs, including by transitioning between in-person and remote learning for any reason including, but not limited to, the following: an epidemic, pandemic, extreme weather, natural or man-made disaster, acts or threatened acts of terrorism or war, government orders or restrictions, low enrollment, other health or safety emergencies, and/or other events beyond the College's control.

Accessing Canvas

To login to Canvas, Manhattan Tech's Learning Management System (LMS), a valid student Username is required. To obtain this, please check the inbox for the personal email address provided on your admissions application. A welcome message will contain your Username and instructions to set up a password. If you are unable to locate your username orpassword set up instructions, send an email to support@manhattantech.edu.

To access your Canvas course(s), navigate to www.manhattantech.edu and select Canvas in the Sign In dropdown menu.

To locate your Canvas courses for the present term, select "Dashboard" from the global navigation bar on the left.

IMPORTANT: Courses will open at 8:00 am on the course start date.

Prepare for Your Online Class

In preparation for your online course, reveiw the Canvas Student Guide.

First Day of Class

- Check your email and Canvas course(s) for your instructor's welcome message.
- Email your instructor to introduce yourself and ask questions.
- Read the class syllabus.
- Locate the first assignments in your Canvas course(s).

College Email

The College relies on Microsoft Office 365 email accounts to maintain secure communication with students. Your student email account serves as the College's primary mode of correspondence. Regularly monitoring your student email is crucial to staying updated on various matters, including financial aid and admission inquiries, upcoming student activities, and other pertinent information.

Teaching & Learning Center

The Marilyn Mahan Teaching & Learning Center (TLC) was established in 2017 with funding from the U.S. Department of Education through a Title III Strengthening Institutions Project Grant. The mission of the TLC is to promote innovative, effective teaching practices, facilitate access to online courses and training, and enhance engagement in student learning. To accomplish this mission, the TLC provides consultation, resources, and programs to:

- Prepare students to pursue technologically advanced and highly productive careers in a diverse and global environment.
- Promote a student-centered environment focused on the motivation and engagement of students through individual or group collaboration, learning resources, academic tutoring, and program testing.
- Provide college-wide leadership and coordination of professional activities aimed at supporting excellence in teaching.
- Nurture a culture of commitment to student learning, stimulate dialogue and reflection about teaching, and foster a sense of community among faculty.
- Support instructors in course planning and pedagogical development, including the integration of course and program outcomes to evaluate learner mastery in the content area.

The TLC promotes the expansion of online and hybrid certificate, degree, and transfer options, and provides comprehensive and accessible student services that mutually enhance one another for the benefit of students, faculty, and the community. Students and instructors have access to appropriate devices and staff services in the TLC to reinforce a positive and engaging learning environment.

Tutoring & Academic Support

Tutoring services are accessed through multiple methods (including online and in person), and are provided based upon individual student's needs, educational goals, and, as applicable, instructor referral. Additional services such as time management, study planning, resume writing, research assistance, math and writing labs, and job interview preparation are offered through various workshops, or upon request. All tutoring and student academic support provided within the TLC are free to currently enrolled students and Manhattan Tech alumni.

Contact tlc@manhattantech.edu or visit our website at manhattantech.edu/tlc for more information.

MATCOnline

MATCOnline is the student portal to check course schedules, register for classes, view grade history, locate account login information, view an unofficial transcript, authorize direct deposit of awards, apply for graduation, and much more.

Accommodation/Support Services

The College provides qualified students with disabilities reasonable accommodations and resources to allow equal opportunities for success. Partnerships between faculty, staff, and students with disabilities provide equity and access to the resources available to all students.

Under the American Disabilities Act (ADA) of 1990, amended as ADAAA in 2008, and Section 504 of the Rehabilitation Act (1973), Manhattan Tech will make every effort to provide qualifying students with reasonable accommodations based on individual needs and a licensed clinician's recommendation. All students seeking academic accommodations must provide the current doctor or licensed clinician documentation. Manhattan Tech is only required to accommodate a disability if the student has disclosed their disability to the College's designated representative and provided the required documentation.

The most effective way to show qualification for reasonable ADA/504 accommodations in the current school term is to obtain a letter from a licensed medical professional/clinician familiar with the student and their disability and who has completed applicable supporting documentation validating the specific disability. The summary letter must outline the disability, test results, limitations to learning, and reasonably recommended academic accommodations to meet the needs of post-secondary coursework.

The documentation must reflect the student's abilities and limitations at the academic post-secondary level when the student requests an accommodation. Please note: The post-secondary school is not required to make changes or adjustments that fundamentally alter the academically prescribed coursework or graduation requirements under the ADA/504.

Under ADA and Section 504, reasonable accommodations or minor academic adjustments may include the following based on required documentation:

- Extended time for tests and quizzes
- Access to a distraction reduced testing environment
- Note-taking assistance

- Assistive reading software
- Dictation software
- The use of a recorder for academic needs

Students are afforded:

- Confidentiality of their records
- Accommodations for which they have been approved

- Permission to request changes to their accommodations
- The choice of which classes they may use all or some of their accommodations

Additionally, accommodations can be approved and activated throughout the semester but are not retroactive. Untimely requests may result in delay, substitutions, or the inability to fulfill the request(s).

PROCESS FOR REQUESTING ACCOMMODATIONS
Disclose your Disability
1. Complete and submit the Accommodations Request Form available at manhttantech.edu.
   Submission should include official documentation of your disability to verify your eligibility for accommodations under the ADA and Section 504 of the Rehabilitation Act of 1973.
2. Schedule an Accommodation Planning Meeting.
   Once your documents are received and accepted by Manhattan Tech, you will be notified to schedule an accommodation plan meeting. Through this process, an individualized accommodation plan will be developed.

Questions can be directed to accommodations@manhattantech.edu.

Job Placement Assistance

It is the sole responsibility of individual students to secure employment following graduation. To assist students and graduates in their endeavors, Manhattan Tech representatives pursue relationships with employers in business and industry to identify and coordinate employment opportunities for College graduates. Efforts are made to recruit prospective employers and arrange on-campus and off-campus interviews. Employment opportunities are posted online at Community Job Board: www.manhattantech.edu/jobboard

Student Assistance Program (SAP)

Manhattan Tech additionally recognizes that students may need support that isn't necessarily identified under ADA. The College provides student life support services to students and household members through an SAP to include:

- Through WellConnect the following are available:
- 24/7 telephonic support from licensed mental health professionals
- 5 counseling sessions/issue/year face-to-face, telephonic, or via video platform
- Professional help to address emotional stressors, test anxiety, relationship issues and more
- Legal and financial consultations
- Referrals for things like housing, utilities, childcare and other local resources
- Health and wellness consultations
- Website access to articles, assessments, webinars, financial calculators, skill builders and other self-help tools

Student Organizations and Honor Society

National Technical Honor Society (NTHS)

The National Technical Honor Society is an honor organization for students enrolled in career and technical education. The purpose of the organization is to promote the ideals of honesty, service, leadership, and skill development; to reward excellence in workforce education; to develop self-esteem and pride; to encourage students to reach for higher levels of achievement; to promote business and industry's critical work-place values – honesty, responsibility, initiative, teamwork, productivity, leadership, and citizenship; and to champion a stronger, more positive image for workforce education in America. Membership in the society is awarded on a merit basis.

Student Voice Council (SVC)

The Student Voice Council plays a very important role at Manhattan Tech. They help share students' ideas, interests, and concerns, as well as assist in improving school climate, and create true communication between the faculty, staff, and administration. Program representatives will attend scheduled and announced meetings, meet with classmates to discuss ideas and concerns, and serve as positive role models to other students.

SkillsUSA

SkillsUSA is a national nonprofit student organization that serves students enrolled in career and technical education training programs at our nation's public high schools and colleges. SkillsUSA's mission is to empower its members to become world-class workers and responsible American citizens. SkillsUSA is an applied method of learning where students practice skills and build self-confidence while helping their schools and communities. SkillsUSA provides experiences in leadership, teamwork, citizenship and character development. Our program emphasizes high ethical standards, superior work skills, lifelong education, and pride.

Foster Child Education Assistance Program

What Benefits Are Available

Senate Bill 85, and the addition of SB 355, provides an opportunity for foster care children in the custody of the Kansas Department of Social & Rehabilitation Services to enroll in Kansas educational institutions without payment of tuition and required fees. Enrollment without payment of tuition and required fees means that an eligible student will be allowed to enroll without payment of tuition and fees required of all students at the time of enrollment. The student will be responsible for other charges associated with the student's academic program costs, such as books and tools. The applicant may be eligible for assistance for other costs of higher education through Kansas Department for Children and Families. This program provides for undergraduate enrollment of eligible applicants through the semester applicant attains 23 years of age.

Who is Eligible to Apply

An eligible applicant must meet the following requirements:

- Eligible applicant enrolls in a Kansas educational institution on or after July 1, 2006;
  and
- The applicant was in custody of the Kansas Department for Children and Families and in a foster care placement on the date such applicant reached 18 years of age;
  or
  prior to age 18 graduated from high school or fulfilled the requirements for a GED while in foster care placement and custody of the Kansas Department for Children and Families;

or
adopted from a foster care placement on or after applicant's 16th birthday;
or
left a foster care placement subject to a guardianship under chapter 38 or 59 of the K.S.A. on or after applicant's 16th birthday.

The Kansas Department for Children and Families Central Office must verify the applicant's eligibility status prior to enrollment.

Requirements of Eligible Students

Students who have been granted tuition waiver shall remain in good academic standing at Manhattan Tech, and shall make satisfactory progress toward completion of the requirements of the program in which eligible applicants are enrolled.

How to Apply

Please submit the Department for Children and Families Application for Foster Child Education Assistance Program Form to the Registrar's Office: www.dcf.ks.gov/services/pps/documents/ppm_forms/section_7000_forms/pps7260.pdf

Campus-Wide Safety and Security

Manhattan Tech provides a full-time Security Officer. The Security Officer patrols the campus and ensures student, employee, and guest safety. If you need the assistance of the Security Officer during an emergency, or an escort to your vehicle, call 785.410.3844. For non-emergency and safety related concerns, email security@manhattantech.edu.

Inclement Weather (Policy 8.3.1)

It is recognized that severe weather conditions may prevent people from reporting to work or classes, cause some to report late, or require others to depart earlier than scheduled. In an emergency or inclement weather situation, Manhattan Tech may cancel classes, close college, schedule an early release or a late start. If Manhattan Tech should close because of inclement weather, the notice will be available through Rave Wireless (an emergency alert system) to your cell phone and/or email address, on the College website, and local radio and television stations, as well as the campus answering machine. If classes are cancelled, dates/ times will be schedule as necessary for make-up of instruction time. Refer to full policies on MATConline.

Weapons Concealed Carry (Policy 5.10.3)

Carry Concealed Handgun (CCH) is a handgun that a person who is not prohibited from possessing a firearm under either federal or state law may carry in a concealed fashion, except where prohibited as detailed in state law (KSA 75-7c10). CCH laws refer to firearms defined as handguns by state law.

The display or "open carry" of any handgun is strictly prohibited by college policy except in defense of one's self or an immediate third person. Display is defined as the intentional showing, presenting, exhibiting and or drawing of a handgun from a position of concealment on one's person. Other than for authorized security and/or law enforcement, no handguns or firearms shall be openly carried on any college property or at college events.

Refer to full policies on MATConline.

ACCIDENTS/INJURIES

While stringent precautions will be taken at Manhattan Tech to ensure safety, accidents may occur. All accidents and injuries should be reported immediately to an instructor or the administrative office. It is Manhattan Tech policy that all accidents, regardless of the severity, be reported so an Incident Report can be completed and submitted to the administrative office in response to the situation.

EMERGENCY MESSAGES

Notification will be sent through the RAVE alert system, and, if applicable, the public website, email, and Facebook.

CONTACTING EMERGENCY SERVICES

Anyone may notify emergency services by calling 911 and then calling the front desk at 785.587.2800.

SAFE DEFEND SYSTEM

Manhattan Tech has teamed up with SafeDefend to provide a system that prepares, notifies, and protects, by empowering people to take action in active shooter or other violent situations.

EMERGENCY

During an emergency, your sole responsibility is to act quickly and in a pre-determined manner to separate yourself from potential harm. The time to provide details, and discuss options and philosophy about procedures is before the need to act arises, and afterward to continually improve processes.

During an emergency, the institution will utilize one of four specific commands:

1. LOCKOUT – Get inside. Lock outside doors.
2. LOCKDOWN – Locks, lights, HIDE!
3. EVACUATE – To announced location.
4. SHELTER – Take shelter in nearest safe location.

Manhattan Tech will also practice safety drills periodically. Any drill will be notated with DRILL in the emergency message. The time to become familiar with evacuation routes, shelter areas, or lock-down procedures is today. Notification to initiate any of the procedures listed below will be given via a text message alert or by use of a runner, if safe.

LOCKDOWN

A crisis situation may arise when it is prudent to lock Manhattan Tech buildings while still occupied. The purpose for this action is to protect students and staff by preventing entrance into building and program areas by a person or persons identified as dangerous. Lockdown procedures may be implemented in an event such as a civil disturbance, hostage situation, or person(s) wielding dangerous weapons.

Anyone witnessing a dangerous person should notify authorities by dialing 911 and then contact an MATC employee if deemed safe to do so. Faculty and staff should follow the building lockdown procedures and utilize the SafeDefend System immediately, or when instructed to do so, in the event of an obvious imminent threat.

While Manhattan Tech has no authority to prevent students from leaving the campus, all students will be asked to stay and report to safe areas in the event of a crisis.

- If you hear gunshots or witness an armed person, isolate yourself and others from the suspect.
- Close, lock and barricade doors, close curtains, turn off lights, move to a wall or corner out of sight from the door or window.
- DO NOT respond to anyone at the door.
- Ignore all bells and alarms unless otherwise instructed.
- If in open space, hide to the maximum extent possible – get behind something solid (a wall, desk, etc.).
- Call 911 if it is safe to do so. Provide as much detail as you know and follow police instructions. Do not expose yourself or others until notified by police that the danger has passed.
- If safe to do so notify an MATC employee and provide as much detail as possible. MATC employees have been trained to manage a crisis event.
- Do not speculate. Depending on circumstances, the responding Security Officers will coordinate efforts with the law enforcement officers.

LOCKOUT

A Lockout recovers all students from outside the building, secures the building perimeter, and locks all outside doors. This would be implemented when there is a threat or hazard outside of the building. Criminal activity, dangerous events in the community, or even a vicious dog on the campus would be examples of a Lockout response. While the Lockout response encourages greater staff situational awareness, it allows for educational practices to continue with little classroom interruption or distraction.

- Everyone gathers inside and maintains business as usual.
- Lock all perimeter doors. No one in or out.
- Increase situational awareness and use common sense.

EVACUATION

When a building on campus must be evacuated, the evacuation must be done quickly and calmly. Special attention should be given those individuals requiring additional assistance to evacuate a building. Ideally, faculty and staff should inform students that the building must be evacuated and should summarize the events to follow as listed here:

- Evacuate immediately if you hear an alarm or are asked to evacuate by a college official.
- Take your personal belongings with you.
- Close, but do not lock, all classroom and office doors.
- Turn off all gas (cylinders, fuels), and other equipment or machines in use that may pose a hazard or may be a source of ignition of fuel in laboratories.
- Follow the evacuation route posted in your building.
- Walk quickly and calmly to the assembly point designated by your Faculty Member and alert others to do the same.
- Reserve elevators for non-ambulatory individuals during non-earthquake or fire evacuations.
- Wait at the designated outdoor assembly point.
- Do not leave the assembly area until you have checked in with the Faculty Member. If the primary assembly point is unsafe, go to an alternate assembly point identified by a college official.
- Notify your Faculty Member if anyone is unaccounted for from your classroom or area.
- After evacuating, DO NOT ENTER A BUILDING FOR ANY REASON until you are told it is safe, or a college official announces an "All Clear".

SHELTERING

Sheltering may be necessary on campus, depending on the magnitude of an incident. College facilities may be used to "shelter-in-place" staff, faculty, students, and visitors, to provide shelter for displaced individuals during a campus evacuation, or to provide shelter to the community. If public officials send out a message that a major incident has occurred that makes it unsafe for the public to move about outdoors, all Manhattan Tech building occupants in the affected area will be notified via the RAVE Alert app, email (if possible), or runners inside each building. Everyone will be asked to remain in the building for their safety,

however, no one will be held against their will. When public officials give the "all clear" to the College Administration, building occupants will be notified through the same emergency communications channels: the RAVE alert system, and, if applicable, the public website, email, and Facebook.

VIDEO SURVEILLANCE

Manhattan Tech uses video monitoring and recording to keep students, employees, and guests safe, and to have accurate reporting available to emergency authorities.

Drugs/Alchohol/Tobacco (Policy 5.9.4 & Policy 6.5.0)

MATC abides by Federal Law P.L. 102-226 and Manhattan City Ordinance 6737 to provide a tobacco and Drug Free Workplace. This policy pertains to employees and students. Refer to full policies on MATConline.

Equal Opportunity, Harassment, and Nondiscrimination Policy (Policy 3.7.2)

Sexual harassment is unlawful discrimination on the basis of sex under Title IX of the Education Amendments of 1972, Title VII of the Civil Rights Act of 1964, and the Kansas Act Against Discrimination. All forms of sexual harassment are prohibited on MATC's campus, on any property being used by the College, and at all College-sponsored activities, programs, or events. Sexual harassment against individuals engaged in College-directed activities is prohibited, whether or not the harassment occurs on College owned grounds. Refer to full policies on MATConline.

Campus Map
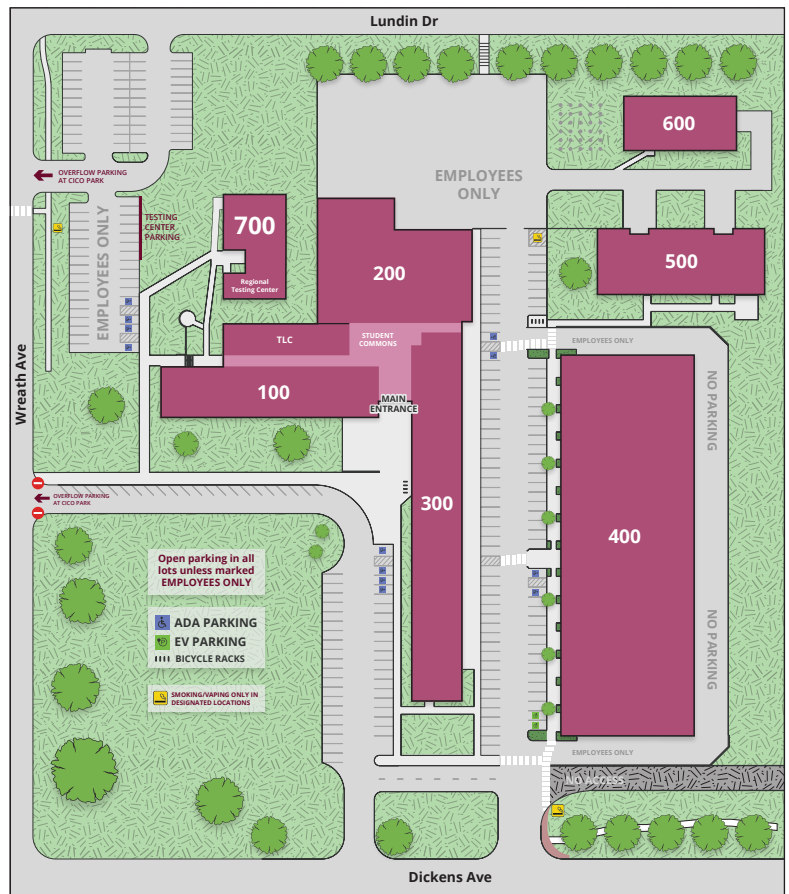
Student and Community Complaint Procedure (Policy 3.7.5)

Manhattan Area Technical College (MATC) provides opportunities for students and members of the community to register complaints by filling out a Student and Community Complaint Form. The Student and Community Complaint Form provides an avenue to submit a concern regarding any area at MATC. The College will address and systematically process all student and community complaints in a timely manner.

Formal complaints that involve sexual discrimination/sexual harassment are addressed under Title IX and are handled separately from the processes described below. Refer the Sexual Harassment Policy 3.7.2. Should you wish to report a Title IX related incident, please utilize the online reporting form and select "Title IX" then the appropriate incident type.

For full policy details refer to current version on MATConline.

Student Code of Conduct (Policy 5.9.3)

Students at Manhattan Area Technical College are entitled to an environment that promotes learning and personal growth. As such, those enrolled at Manhattan Tech are expected to adhere to federal, state, and local laws. Any violations of these laws or the College's regulations, policies, and rules may result in disciplinary actions. These regulations are designed not to deny any guaranteed rights and privileges, but to ensure a positive educational environment for all students. Therefore, if a student's behavior disrupts or threatens to disrupt the college community, appropriate disciplinary measures will be taken to restore and protect an atmosphere of collegiality and mutual respect on campus.

Refer to Policy 5.9.3 for proscribed conduct and procedures.

ACADEMIC INFORMATION

Nationally, workplace technology has advanced exponentially and has impacted almost every industry. Thus, Manhattan Tech programs are designed to prepare students to enter the workforce in a relatively short period of time with the technical skills needed to gain satisfactory employment in their chosen discipline. Technical education is a time-efficient, cost-effective means of achieving career education. With the education and experience gained, graduates have the potential to open doors of opportunity that otherwise might have been inaccessible. The ultimate goal of each technical program, course, or seminar is successful employment for graduates or transfer to a four-year college or university, as well as the creation of life-long learners.

Associate of Applied Science Degree

An Associate of Applied Science (AAS) degree will be awarded upon satisfactory completion of a program of study of not less than sixty (60) credit hours. AAS degree awards have a minimum of 15 credit hours of general education, with 3 credit hours of math and 3 credit hours of communications. Students must complete all requirements with a minimum GPA of 2.0. Students who have completed a technical program certificate and desire to complete an AAS degree must consult with their Manhattan Tech advisor.

- Automotive Technology
- Biotechnology ••
- Business Accounting
- Business Administrative Assistant
- Critical Environment Technologies ••
- Construction Technology
- Electric Power and Distribution
- Heating, Ventilation, and Air Conditioning
- Industrial Engineering Technology ••
- Information & Network Technology ••
- Nursing: Associate Degree
- Welding Technology

Technical Certificates

A technical certificate is awarded to students who have successfully completed the necessary program courses and have a cumulative grade point average of 2.0 or higher.

Manhattan Area Technical College provides technical certificates in the following disciplines:

- Automotive Technology
- Biotechnology ••
- Business Accounting
- Business Administrative Assistant
- Critical Environment Technologies ••
- Construction Technology
- Electric Power and Distribution
- Heating, Ventilation, and Air Conditioning
- Industrial Engineering Technology ••
- Information & Network Technology ••
- Nursing: Practical
- Welding Technology

Certificates of Completion

A certificate of completion is awarded to students who have successfully passed the necessary course requirments.

Manhattan Area Technical College provides certificate of completion in the following disciplines:

- Certified Nurse Aide (CNA)
- Certified Medication Aide (CMA)
- Emergency Medical Sciences (EMS)
- Phlebotomy

General & Adult Education

Manhattan Tech offers both general and adult education courses.

- High School Diploma (GED)
- English as a Second Language
- General Education Courses: Math, English/Communications, Sciences, and Social Sciences

•• Program undergoing revisions, not accepting applicants for 2024-2025.

Posthumous Degrees and Certificates

If a deceased student was very close to earning a degree or certificate, in special cases the degree may be awarded posthumously. Typically, the student would be within one semester (i.e. within 18 credits for an undergraduate degree) of completing the requirements for the degree at the time of death. A request can be made to the registrar for a posthumous degree to be awarded and final approval must be attained by the President and CAO.

College Transfer Policy and Procedures

Transfer Credit

An evaluation of potential trasfer credit will be completed after an Admission Form has been filed and official transcripts have been recieved following guidlines in the "Official Transcripts" section. The Registrar, or their designee, will determine the equivalency of transfer courses. Students must meet with a Manhattan Tech Advisor to discuss obtaining credit for courses not a part of the Kansas Board of Regents Systemwide Transfer (SWT). Only 75% of credit towards a degree or certificate program can be transfer credit. In most cases, the transcript will be evaluated within 30 days of receipt by the Registrar's Office.

Transfer Courses for General Education

In the state of Kansas, some general education courses are identified as Systemwide Transfer (SWT) courses approved by the Kansas Board of Regents, for which faculty develop and update learning outcomes. SWT courses transfer to any Kansas public institution offering an equivalent course. The decision of lower division courses to count toward upper division credit hours is at the discretion of the receiving institution.

For a complete listing of the courses approved by the Kansas Board of Regents for transfer as direct equivalents at all public Kansas postsecondary institutions, see kansasregents.org/transfer_articulation.

See course descriptions in the back of the catalog for Manhattan Tech's SWT general education courses offered. These courses are indicated by: ⊤▸ SWT ####

Credit for Prior Learning

Students may seek credit for prior learning through; Advanced Placement (AP), Advanced Standing, College Level Examination Program (CLEP), VA National Testing Program (DSST) formally known as DANTES, education credit for training programs, or credit by examination.

For specific information about how to apply for prior learning credit, refer to Policy 5.1.3 and/or contact Manhattan Tech Student Services.

Advanced Placement

Advanced Placement courses (AP) are offered to high school students who are academically prepared to take college-level coursework. AP brings the college experience to the high school student.

By taking AP courses and scoring successfully on the related AP Exam, students can save on college tuition by fulfilling degree course requirements. Please read the guidelines on accepting AP scores below:

1. To receive proficiency college credit, a student must be accepted into an associate degree or certificate program offered by Manhattan Area Technical College.
2. To receive proficiency college credit (PR), a minimum score of 3 is required for accepted AP exams.

To request your official scores, contact the CollegeBoard. *(www.collegeboard.org)*

Please see the Current List of AP Exams accepted by Manhattan Area Technical College. *(manhattantech.edu/transfercredit)*
Note: Other colleges may not accept AP in transfer.

Advanced Standing

Credit may be given for previous college course work for required or elective courses completed and, in some situations, for specific practical experience. Advanced standing in programs of study is determined on an individual basis by Manhattan Tech instructors, and/or the Chief Academic Officer.

College Level Examination Program (CLEP)

CLEP is a testing program of The College Board designed to measure prior learning and mastery of introductory (lower division) college course material in particular subject areas. Students must arrange for an official report of CLEP examination scores to be sent to Manhattan Tech from The College Board in order to receive credit. Manhattan Tech will grant credit to students who earn a score of 50 or higher on CLEP examinations and will also grant credits for an equivalent course when a CLEP examination covers material that is substantially similar to an existing lower division course. Equivalent course credits may be applied to certificate and/or degree programs either as a required course or as an elective course. Manhattan Tech will grant lower division elective course credits when a CLEP examination covers material that is deemed to be college level and is substantially similar to an existing course. Elective course credits may be applied to certificate, diploma, and/or degree programs as either a required course or as an elective course.

The Regional Testing Center is a licensed, regional Pearson Vue testing center, as well as an Educational Testing Service (ETS) approved testing site, offering General Equivalency Diploma (GED) testing, Pearson Vue credentialing exams, and ETS certifications (PRAXIS, CLEP, etc.).

VA National Testing Program (DSST)

Credits for the Subject Standardized Tests Program for the VA National Testing Program (DSST), formally known as DANTES, will be evaluated using the ACE (American Council on Education) recommendations.

Credit for Training Programs

Credit for training programs, including military training, will be evaluated according to the ACE Guide. For Military training, credit will be evaluated from the student's military documents using the "ACE Guide to the Evaluation of Experiences in the Armed Forces." For Army veterans, the Joint Services Transcript (JST) will provide a transcript of ACE credit recommendations for all coursework completed while in service, the military occupational specialties (MOS's) held, and examinations passed. For Industry Training, credit will be evaluated using the "ACE College Credit Recommendation."

Credit by Examination

Students who have knowledge or experience in an area paralleling instruction in a Manhattan Tech course may apply for credit by examination for specific courses, to a maximum of nine (9) hours per transcript. This examination, developed by the program instructor(s), will be comparable to a comprehensive review of the course content and will be administered by a Manhattan Tech instructor or administrator. Examination is not available for course a student has already taken.

Procedures for evaluating credit

Manhattan Tech shall follow the recommendations of the Joint Statement on the Transfer and Award of Credit, in implementing its transfer policy and procedures (www.acenet.edu).

Official Transcripts

What is an official transcript?

A transcript is an official certified report of a student's permanent student record. In accordance with the Public Information Act and FERPA, as amended, student academic records are classified as confidential and may be released only with the student's written authorization and signature. No one else, including but not limited to spouses, parents, etc., can request transcripts, as student written permission is required by law.

Official transcripts or reproductions of official transcripts from other institutions cannot be released to any individual or institution. Visit manhattantech.edu or MATCOnline for additional information.

Requesting a Manhattan Tech Transcript

Official transcripts must be requested through the National Student Clearinghouse. (manhattantech.edu/transcripts) Transcripts are available for continuing education students as of Fall 1994, and for all workforce development students as of Spring 2004. Course credit earned prior to 2006 is non-accredited course achievement. Students must pay all outstanding debts and/or complete Financial Aid Exit Counseling (if required) to Manhattan Tech before an official transcript will be released. All official transcript requests are verified and approved by the Registrar's Office. The transfer of Manhattan Tech credit to other colleges is entirely up to the receiving institution. Manhattan Tech does not guarantee transfer of its credit.

Sending Transcripts to Manhattan Tech

Undergraduate students may transfer credit from other institutions of higher education that are accredited by a regional accrediting agency recognized by the U.S. Department of Education. An official transcript sent directly from the issuing institution to Manhattan Tech is required for transfer credit. Faxed transcripts will not be accepted as official trascripts. Only course work with a grade of C or higher may be considered for transfer.

Reverse Transfer

Reverse Transfer is the process of retroactively conferring an associates degree or certificate to students who have not previously completed graduation requirements.

Eligible students must have completed 45 credit hours at one or more public technical colleges in Kansas and must consent to the release of their academic records. Academic records will be evaluated for degree or certificate completion and will be conferred based upon a satisfactory evaluation. Contact the Registrar's Office at registrar@manhattantech.edu for more information.

Articulation Agreements

Students may seek award of credit received from a secondary or post-secondary institution that has in place a current Articulation Agreement with Manhattan Tech in the students' intended program of study.

An articulation agreement is a formal arrangement that facilitates the transfer of a specific set of academic credits from one institution to another. This is commonly seen between two-year post-secondary institutions and baccalaureate degree-granting colleges or universities. Additionally, there are articulation agreements between high schools and post-secondary institutions. For more information, consult an academic advisor.

Students must meet all qualifying requirements of the Articulation Agreement.

See website for more information: manhattantech.edu/articulation

Transcripted Credits

Students may go to matconline.matc.net to view their final grades for a course. If an official copy is required, students may make an official request.

If an error is suspected in the reported grades, students must notify the faculty member. Failure to initiate and complete processing within the specified time will disqualify students from further consideration of a grade change.

A GPA is obtained by dividing the number of grade points by the hours graded:

Calculated in GPA		
A	Excellent	4 grade points
B	Good	3 grade points
C	Fair	2 grade points
D	Poor	1 grade points
F	Failure	0 grade points
P	Pass	0 grade points
XF	Failure academic integrity violation	0 grade points

Not Calculated in GPA	
AC	Articulation Credit
AU	Audit
AW	Administratively Withdrawn
I	Incomplete
PLA	Prior Learning Assessment
TO	Credit by Examination
TR	Transfer Credit
W	Withdrew
WIP	Work in Progress

Incomplete Grades

An Incomplete ("I") may be given at the request of the student and indicates the student has not met the requirements for course completion due to extenuating circumstances but has been granted additional time to meet those requirements. The student and the instructor must discuss an Incomplete before it is awarded. This grade is given at the instructor's discretion if the following conditions are met:

- The student is currently passing the class
- Circumstances requiring the request for an "I" are beyond the student's control
- Unfinished work is limited

The Incomplete Grade Contract is documentation of that discussion and is meant to provide a clear statement of mutually understood remaining assignments. Faculty must submit Incomplete Grade Contracts to the Registrar before the last day of the semester. Upon completion of the work within the assigned time period, the instructor will report the new grade by submitting a "Grade Change Report" form to the Registrar.

Any "I" grade that has not been removed from the transcript by the instructor on or before 9 weeks from the start of the subsequent term (FA, SP, SU) automatically converts to a letter grade.

Repeat Course

An "R" that appears in the repeat column indicates that the course is a repeat and an asterisk (*) appears by the earlier course that was repeated. The original grade and points are no longer calculated in the GPA.

Methods of Instruction

Methods of Instruction/Delivery Method

All courses at Manhattan Tech are required to utlilize the online learning management system, Canvas. To ensure all courses offered are well designed, expertly taught, and adhere to practical considerations, all learning at Manhattan Tech will:

- Align with our values of excellence, integrity and student-centeredness, and our mission to provide quality performance-based education
- Engage our students in meaningful, active learning to address the needs of a variety of learning styles
- Hold our students and instructors to a high level of accountability and performance standards
- Use our assessment and evaluation processes to assure quality of course design and instruction, to improve student learning
- Provide our instructors with support, resources, and training in current pedagogies for high-quality face-to-face, online, and blended instruction

Face-to-Face Delivery Format
- In a face-to-face course one hundred percent of instruction will occur in-person. Canvas may be used to provide additonal resourses, supplemental course infomation, and may be untilized to submit coursework.
- Students may have readings and assignments to complete outside of class time.

Blended Delivery Format
- Blended courses will convene face-to-face (or synchronous) and have additonal course requirements online
- Most blended courses will have 50 percent of face-to-face instruction and 50 percent course requirements online
- Requires compliance with the online attendance policy
- May require proctored events such as finals and quizzes

Online Delivery Format
- Online courses replace traditional face-to-face instruction and interaction with web-based, online learning, and collaboration.
- All learning and interaction are asynchronous
- Requires compliance with the online attendance policy
- May require proctored events such as finals and quizzes

Definitions
Synchronous Learning: All types of learning where the student(s) and instructor(s) are in the same place at the same time. (i.e. in-person classes, live online lectures, remote lecture)
Asynchronous Learning: Allows students to learn on their own schedule, within a specific timeframe. (i.e. recorded lectures, online readings/homework)

Consider the following about online and blended learning:

Policies
- Students are responsible to schedule proctored, in-person events as required by instructor.
- A unique attendance policy is applied to online/blended courses.

Time Commitment
- Online learning should be viewed in the same light as a face-to-face class. It will not be an "easier" course, nor will it take less time or energy.
- Participants must be responsible and self-disciplined to keep up with the course. Time management is extremely important.
- Although you may feel you are working through the course on your own schedule, it is mandatory to meet deadlines established by the College and its instructors.
- The TLC staff is available to assists students in developing the time management skills and study habits necessary for online learning.

Communication
- Most content and interaction happens through writing in an online or blended course. You should know how to express yourself professionally in writing and be comfortable using electronic communication.
- It is important to know your instructor, how to contact them, to communicate regularly, and to maintain a course presence

Digital Access
- You should be familiar with the Internet, email use, downloading, uploading, and saving files.
- An accessible and reliable internet connection is required.
- Assignments should be in a format approved by the instructor and supported by Manhattan Tech. The College provides a free installation of Microsoft Office suite with a valid student email account. See https://matconline.matc.net.
- Minimum hardware and software are also required.*

Hardware

There are the system guidelines for student devices, and what hardware and software we will support.

Please keep in mind each department might have additional requirements. It might also be possible to use something not listed but it may require you installing additional software and we will not support it.

* For full up to date system requirements please refer to the website: manhattantech.edu/systemrequirements

If you are unsure as to whether or not your computer meets these requirements, or if you require any technical assistance, please contact the IT Help Desk. Your program or instructor may require specific hardware, software, or apps.

Auditing a Course

Students who wish to enroll in a course, but want to avoid receiving college credit, may audit the course. Students choosing to audit a course must obtain written permission from the course instructor and appropriate administrator. Enrollment is conditional based on availability of open seats in the class, with credit-seeking students having priority for entry into the course. Students will be pay the currently approved tuition rate and any applicable course fees. Tuition and fees are not refundable. The student's transcript will reflect "AU" as the form of grade provided. Audited course credit hours may not be applied toward enrollment for federal financial aid or any other financial assistance offered at Manhattan Tech. Audited courses are not applicable for Credit for Prior Learning.

ACADEMIC EXPECTATIONS

Degree/Certificate Timeline for Completion

Students have five years to complete their Associate of Applied Science Degree or Certificate requirements under the Manhattan Tech catalog in use at the time of their first date of attendance. After five years, a returning student will be placed under the current catalog year.

Students can follow the degree requirement of any subsequent catalog in place after they begin their studies at Manhattan Tech. Submitting a Change of Degree/Major form will change the students record, which may impact which courses they are required to complete. For assistance in determining how a change of major will affect the students progress toward a degree or certificate, or for information on determining the current catalog of record for graduation, schedule an appointment to meet with an advisor prior to submitting a Change of Degree/Major form.

Attendance/Roster Verification

Faculty verify rosters during the first week of the semester. Students who are not in attendance are reported to the registrar's office for administrative drop. As a result, the course will not appear on the student's transcript, and the associated tuition and fees will be unapplied from the student's account.

Face-to-Face Courses

Manhattan Tech faculty are committed to preparing students for job skills and employment, understanding that poor attendance can hinder knowledge and skill development. Therefore, department instructors outline attendance guidelines for their programs in course syllabi or program handbooks.

Attendance for Online/Blended Courses

The full online attendance policy will be stated in your syllabus.

Within the first five business days of the course, students will be asked by the instructor to verify their attendance by completing one of the following steps:
1. Log in regularly, as your instructor can track your online activity and login frequency.
2. Read the syllabus and all related policies.
3. Successfully complete the Computer Usage & Academic Honesty online quiz.
4. Complete any assignments specified by the instructor.

Academic Honesty and Misconduct (Policy 4.3.2)

Academic honesty at Manhattan Tech is an important part of student success. Manhattan Tech views academic honesty as an integral part of student development and learning. All Manhattan Tech students are expected to understand the College's policy on academic honesty, as well as how the College defines academic dishonesty.

Academic dishonesty is an action taken by a student that violates the College's Policy 4.3.2 Academic Honesty.

For full policy details refer to current version on MATConline. (manhattantech.edu/policy)

Graduation Requirements

Students intending to graduate with a Technical Certificate and/or Associate of Applied Science degree must complete the following requirements to graduate and/or participate in commencement exercises:

- Submit the Intent to Graduate form on MATC Online and pay $25 program completion verification fee.
- Satisfactorily complete all course work for technical certificate/degree.
- Achieve a cumulative GPA of 2.0 or higher.
- Have no more than 6 credit hours of course requirements* remaining to complete the Certificate/Degree.
    * End of year program interships must be in-progress or scheduled to be completed during the following term.
- Fulfill all financial obligations to Manhattan Tech as well as Financial Aid Exit Counseling, if applicable.

The program completion verification fee is non-refundable and assessed to all graduating students.

Students are responsible for meeting, in full, all requirements for graduation as outlined in this catalog. Advisors assist in the planning for a degree program for each student; however, the final responsibility for meeting requirements for graduation rests with the student. If a student does not complete the requirements for graduation, re-application and fee payment for graduation is required.

Alumni requiring a re-printed diploma should contact the Registrar's Office at registrar@manhattantech.edu.

Drop or Withdrawal Policy

An official drop/withdrawal is the date a completed Drop/Add or Withdrawal Form is submitted online by the student. A student considering withdrawal should first meet with a Manhattan Tech advisor or instructor to clarify options.

If a course is equal to or greater than 9 weeks, a student may officially drop from a course with no transcript notation of enrollment if the Drop/Add or Withdrawal Form is received by the College within 5 days of the start of the course. If a course is 8 weeks or less, a student may officially drop from a course with no transcript notation of enrollment if the Drop/Add or Withdrawal form is received by the College within 2 days of the start of the course. It is the student's responsibility to complete the form by the appropriate drop date.

A grade of W will appear on the student's transcript if the student officially withdraws before 75% of the course has been completed for the semester. Refer to the Drop/Withdrawal Calendar for exact dates. If 75% or more of the course has been completed, an earned grade will be transcripted based on work complete. Refer to the Tuition Refund Policy in the Financial Obligations section of the catalog for applicable refund dates.

Students are encouraged to meet with their Academic Advisor as well as Financial Aid prior to drop/withdrawal of courses.

Students not current with financial obligations may be dropped from classes at any time during the semester.

The Drop/Add or Withdrawal Form is located online.

Faculty/Administrative Withdrawal Policy
If a student is absent from a class for five consecutive class periods during the official Drop or Withdrawal period and has not contacted any Manhattan Tech faculty or staff member, the instructor may request to withdraw the student from the course on the sixth day. This is done by submitting an online withdrawal form with an explanation to the appropriate Dean. Upon the Dean's approval and processing, an Administrative Withdrawal (AW) will appear on the student's transcript for the relevant course(s). The official date of the Administrative Withdrawal will be the date the request was received. If absenteeism occurs outside the official Drop or Withdrawal period, the faculty will assign the student their earned grade at the end of the course. The student remains responsible for any financial obligations as outlined in the Tuition Refund Policy. Faculty requesting exceptions may consult with the appropriate Dean.

Medical Withdrawal

A medical withdrawal may be considered if you are unable to complete the semester due to a serious medical condition, either physical or psychological. Your medical provider(s) will need to supply the appropriate medical documentation using the forms provided by our office. To obtain these forms and petition for a medical withdrawal, schedule an appointment with an academic advisor. Typically, a medical withdrawal applies to all classes taken during the term.

The medical condition should have arisen during the semester from which you seek withdrawal. If you were aware of the condition before the semester started, you must provide medical documentation showing that the condition changed during the semester, preventing you from meeting course requirements.

Once you have filled out the forms, submit them through the online Course Withdraw Request Form (https://manhattantech. edu/add/drop/form). It is the student's responsibility to ensure that the office has received the petition request.

It is also important to understand that you might need to repay all or a portion of your financial aid. Contact Financial Aid for more information about your individual circumstances. Refunds will be subject to the College refund policy but are reviewed on a case-by-case basis. Refunds will not be provided for any classes for which you are awarded full credit.

Academic Clemency

Academic clemency is a policy allowing students to eliminate poor academic records within specific parameters. The student must also make a complete curriculum change or wait an interim of two years from the date of the grades prior to filing for academic clemency. This policy refers to Manhattan Tech only. A student transferring to another institution will have to follow that institution's policy. Students must meet the Following Requirements:

- The student must be currently enrolled at Manhattan Tech and must have completed at least 12 consecutive credit hours at this institution with a 2.5 GPA.
- The student must also make a complete curriculum change or wait an interim of two years from the date of the grades prior to filing for academic clemency.

Steps for applying for academic clemency:

1. Students must meet with their academic advisor to determine eligibility for academic clemency.
2. Once an academic advisor has determined a student is eligible, the student will be provided a link to complete an online request for clemency form. Within the form the student will need to:
   - Identify up to 9-12 semester credit hours, or no more than 3 courses, of specific "F" and/or "D" grades to petition for exclusion from the computation of the student's GPA.
   - Explain in detail the request for academic clemency.
3. Upon receipt of the petition, the appropriate designee will review the student's transcript and current enrollment, and recommend clemency, if appropriate.

If academic clemency is granted, the student understands that:

- Academic clemency can be granted only once.
- Up to 9-12 semester credit hours, or no more than 3 courses, of specific "F" and/or "D" grades may be petitioned for exclusion from the computation of the student's GPA.
- Grades excluded from the computation of the GPA will not be counted for graduation but will remain on the student's transcript. While credits removed from the computation of the GPA as a result of academic clemency will not be used to meet course or program requirements, they will be used to determine eligibility for financial aid awards.
- Courses on which academic clemency is granted will not be used in the computation of the cumulative grade-point average. Grades excluded from the computation of the GPA will be identified on the student's transcript by an ampersand (&).
- Students granted academic clemency may not receive honors at graduation. (i.e. National Technical Honors Society (NTHS) or other college honors)
- Federal and state financial aid regulations and requirements for veterans' benefits will prevail over institutional academic clemency policy if there is a conflict.
- Policies related to academic clemency pertain only to Manhattan Area Technical College and may not be honored by other institutions.

Academic Fresh Start

Academic fresh start is a policy that provides students with poor or marginal academic college records the opportunity to resume work toward their degree without the burden of a poor GPA due to past academic performance. Academic Fresh Start removes all prior college grades from the student's transcript, while academic clemency is limited to removal of 9-12 semester credit hours, or no more than 3 courses. This procedure refers to Manhattan Tech only. A student transferring to another institution will follow that institution's policy.

Students Must Meet the Following Requirements:

- Students must be separated from all institutions of higher education for at least four years.

Steps for applying for academic fresh start:

1. Students must meet with their academic sdvisor to determine eligibility for academic clemency.
2. Once an academic advisor has determined a student is eligible, the student will be provided a link to complete an online request for fresh start form. Within the form the student will need to explain in detail the reason for request for academic fresh start and a plan for academic success in the future.
3. Upon receipt of the petition, the appropriate designee will review the student's transcript and current enrollment, and recommend Academic Fresh Start, if appropriate.

If academic fresh start is granted, the student understands that:

1. Academic fresh start at Manhattan Tech may be granted only once.
2. The student's permanent record will remain a record of all work, regardless of the institution at which that work was completed; however, the returning student will forfeit the use of all credit hours toward a degree earned prior to the four-year separation period.
3. The student's record will carry a notation designating when the academic fresh start was granted and noting that the calculation of GPA and credit totals for degree purposes begins with that date.
4. The student agrees that the calculation of the GPA and credit hour totals will be based solely on work completed after this point. The student will forfeit use of all credit hours toward a degree earned prior to being granted academic fresh start.
5. Students must be separated from all institutions of higher education for at least four years.
6. Students applying for admission under academic fresh start must meet admission requirements established by Manhattan Tech.
7. Federal and state financial aid regulations and requirements for veterans' benefits will prevail over institutional academic fresh start policy if there is a conflict.
8. Policies related to academic fresh start pertain only to Manhattan Area Technical College and may not be honored by other institutions.

FINANCIAL SERVICES

Tuition and Fees

Tuition and Fees should be paid by the first day of each semester, the amount of which is determined by the number of credit hours in which a student is enrolled, as well as additional costs such as tools, uniforms, etc. Students who have not paid or arranged for payment through the Financial Services by the payment due date may be dropped from their courses and assessed a late fee. Late fees of $25 per month will be applied until the balance is paid (maximum amount of total late fees applied not to exceed $250 per semester.) This does not apply to financial aid and VA education benefit recipients that have completed the entire financial aid or VA certification process within the 10 business days. For students who have completed the Financial Aid/VA process in its entirety, payment will be deducted from the first financial aid disbursement. If financial aid or VA education benefits are not sufficient to cover the full tuition and fee balance, the student is immediately responsible for the remaining balance owed. Students should contact Financial Services to determine their status in this process. Students whose courses have been dropped due to non-payment may re-enroll if the courses are still available and payment arrangements are made at the time of enrollment.

Payment due dates for each semester are as follows:	
Fall 2024	September 16th, 2024
Spring 2025	February 17th, 2025
Summer 2025	June 13th, 2025

Students may pay account balances using a credit or debit card via https://matconline.matc.net, by logging in to their student portal, accessing account information from the student tab, and following the links. Direct questions regarding online payments to Financial Services at 785.320.4512 or StudentAccounts@manhattantech.edu.

Payment Plan

Manhattan Tech offers an online Self-Service Payment Plan via an AirSlate Form located on the website, as an option for paying tuition and fees, in monthly installments when enrolled in courses for fall, spring, and/or summer.

No interest or finance charges are assessed; however, a $10 non-refundable set-up fee is due with a 25% down payment. The College accepts cash, check, money order, credit, and debit card. The balance will be divided into monthly payments over the current semester, due by the fifteenth of each month.

Once approved, students eligible for Self-Service Payment Plans will be able to access and select from available plans via their student portal on MATC Online.

Official transcripts and diplomas may not be released until payment is made in full.

What Students Need to Know about Manhattan Tech's Payment Plan:

- A business hold will be placed on the student's account. Once the balance has been paid in full, the hold will be lifted. A business hold prevents a student from enrolling in additional courses in the current and upcoming semesters, obtaining official transcript and/or receiving their diploma.
- Final payments are due prior to the last day of the class in that semester.
- For any changes, students must contact Financial Services at 785-320-4512 or studentaccounts@manhattantech.edu.
- Payments not received by the due date will be assessed a $25 late fee per month

- Accounts 60 days past due become immediately due in full, accounts 90 days past due will be turned over to collections.
- Payment plans should be set up by the stated semester payment due date.
- Payment plans must be paid in full within 180 days from the end of the semester.
- Payment plans must be paid in full before students can begin their next semester.

More information: manhattantech.edu/paymentplans

Returned Checks Policy

Checks made payable to Manhattan Tech returned for any reason, will be assessed a $30 returned check fee for each instance. The student will be notified at their Manhattan Tech email address if a check is returned. If payment is not remitted to the College within ten (10) days of the date of notification, the matter may be referred to a collection agency. Once a student has a returned check, the College will accept only cash, money order, credit, or debit as payment.

Additionally, account payments requiring resubmission for deposit due to non-sufficient funds will be assessed a $5 charge per occurrence.

Tuition Refund Policy

The Registrar's Office has been designated as the official office for drop and withdrawal notification. Refunds are calculated based on the day the student's Drop/Withdrawal Form is received by the Student Services Office. Students who have completed registration in a class and wish to drop a class or classes in which they are enrolled, must submit forms to Registrar's office within the required time period to receive the following refund. Days listed include weekends and holidays, it is the student's responsibility to complete the form by the appropriate drop date.

Courses Equal to or Greater than 9 weeks

| 100% Refund | 7 days of the course start date |
| 50% Refund | 14 days of the course start date |

Courses 8 weeks or Less (Including Summer Courses)

| 100% Refund | 2 days of the course start date |
| 50% Refund | 4 days of the course start date |

No refund will be given, without administrative approval, after the indicated refund periods. A specific date for the end of the refund period for each semester will be published in the academic calendar for that semester. If Manhattan Tech exercises its right to cancel a class, a full refund will be issued.
Important note: Seat deposits and any applicable fees are NOT ELIGIBLE for refunds.

Military Related Refunds

Any Manhattan Tech student serving in the National Guard or Reserves called to active duty or drafted and required to report for active duty during an academic term is entitled to a full refund of tuition and fees for any courses for which the student has not reasonably completed or received a grade. No refund of tuition and fees is due for any classes for which the student is awarded full credit. Students receiving financial aid or other financial assistance will be subject to the refund policies of the agencies sponsoring the aid.

If the student chooses to drop from courses during the designated drop/add period of the semester, no entry will be made on a student's transcript. If the student withdraws any time after the designated add/drop period, the grade of "W" will be assigned.

All refunds are contingent upon verification of status through official military documentation. A student's request to withdraw must be made within one week of being called to active duty and may be made by either the student, or other party who can provide proof of legal authorization to act upon the student's behalf.

Any student who volunteers for military service during an academic term will be subject to Manhattan Tech's official Tuition Refund Policy.

Title IV Funds Refund Policy

Undergraduate students receiving Federal Financial Aid who completely withdraw from Manhattan Tech are subject to the Department of Education's Return of Title IV Funds policy, which differs from the Manhattan Tech policy. A copy of the Return of Title IV Funds policy may be obtained from the Manhattan Tech Office of Financial Aid.

Financial Aid

The Financial Aid staff at Manhattan Area Technical College is dedicated to assisting students with the process of applying for and receiving their financial aid.

The first step in determining eligibility for Title IV Federal Financial Aid (Pell Grant, FSEOG Grant, Work Study and Federal Student Loans) is to complete the Free Application for Federal Student Aid (FAFSA). Students can complete the FAFSA electronically at https://studentaid.gov/h/apply-for-aid/fafsa.

Manhattan Tech recommends completing the FAFSA and all required paperwork prior to July 1st for the Fall semester and December 1st for the Spring semester in order to have financial aid available at the first disbursement date and be eligible for a textbook voucher, if applicable. Documents received after July 1st may not be processed until after the semester begins and may not be eligible for a textbook voucher. Completing the FAFSA is a separate process from applying for admission to the College.

Title IV Federal Aid

Federal Pell Grant – A need-based grant program for students who have not earned a Bachelor's degree. A student's eligibility is determined by their Student Aid Index (SAI), cost of attendance, and status as a full-time or part-time student. The SAI is determined by the completion of the FAFSA. 2024-2025 awards range up to $7,395 per academic year.

Federal Supplemental Educational Opportunity Grant (FSEOG) – A need based grant program for students with exceptional

financial need. Priority is given to students eligible for Federal Pell Grant. Awards at Manhattan Tech range between $100-$300 and are first-come first-serve until funds are depleted.

Federal Work Study (FWS) – A program that provides jobs for students with financial need. Students are placed in specific jobs on campus. Students typically work no more than 20 hours per week. Students are paid according to Manhattan Tech payroll procedures.

Direct Student Loans – A loan program available to students who are enrolled at least half-time. A dependent student may be eligible to borrow up to $5,500 as a freshman and $6,500 as a sophomore. An independent student may be eligible to borrow up to $9,500 as a freshman and $10,500 as a sophomore per academic year. For the purpose of Title IV Federal financial aid, a student is considered dependent if their parent(s) were required to include their information on the FAFSA. Whether the loan is subsidized or unsubsidized is determined by the Manhattan Tech Financial Aid office based on the results of the FAFSA, the program cost of attendance, and other aid the student is receiving.

> Subsidized Loans – A need based loan where the interest is paid by the federal government while the student is enrolled at least half-time. Repayment on this loan begins six months after the student leaves school or drops below half-time enrollment status.

> Unsubsidized Loans – A non-need based loan where the interest is the responsibility of the student from the time the loan is disbursed until it is paid in full. The student has the option of paying the interest as it accrues or capitalizing it on the loan. Repayment of the loan generally begins six months after the student leaves school or drops below half time.

> Parent PLUS Loan – A non-need based loan available to parents and/or step-parents with a good credit history to assist with educational expenses of a dependent student. (For the purpose of Title IV Federal financial aid a student is considered dependent if their parent(s) were required to include their information on the FAFSA.) The interest begins to accrue at the time the loan is disbursed. Repayment of the loan may be deferred until six months after the student leaves school or drops below half time. Repayment is the responsibility of the parent who took out the loan. A parent can apply by completing an application online at: https://studentaid.gov/plus-app/

Title IV Aid Eligibility Requirements

For students to be eligible for Title IV aid at Manhattan Tech they must be:

- Enrolled in a Technical Certificate or Associate of Applied Science degree program

- Enrolled in courses that are required for the declared certificate or degree

- Enrolled at least half-time (six credit hours) in order to be eligible for Federal loan funds

- A high school graduate or have a GED

- A U.S. citizen or eligible non-citizen (please see https://studentaid.gov/understand-aid/eligibility/requirements/non-us-citizens for information regarding criteria to be considered an eligible non-citizen)

- In good standing with previous student loans (students cannot be in default on a federal education loan, or owe repayment on a federal grant)

- Maintain Satisfactory Academic Progress (2.0 GPA or higher in all coursework taken at Manhattan Tech; complete 75% of attempted credit hours; and not exceed 150% of published credit hours for degree program). Refer to Academic Eligibility for Financial Aid section for more information.

All financial aid, with the exception of Federal Work Study, is applied directly to a student's account on a semester basis. After tuition and fees are paid, any remaining credit balance will be refunded to the student.

Disbursement and 30-Day Delay Policy

Disbursement of financial aid is a process in which fund sources (grants, scholarships, loans, etc.) are posted to your account. Federal aid is split into payments over the course of an academic year and/or final period of study, as indicated on your funding offer. As this process takes place, students may see changes to their anticipated aid and balance. After you have begun posting attendance in the term, timing of disbursements is contingent upon meeting all financial aid eligibility requirements and confirmation of attendance and enrollment status.

- All financial aid funds will begin disbursing approximately 30 days after the start of class. All financial aid refunds will be processed after disbursement. The 30 days begin on the first day of the semester.

- Book vouchers will be available for eligible students through the first week of the semester to assist with book costs

- Students who do not attend all registered courses may have their financial aid reduced or cancelled due to not meeting the minimum required hours for eligibility.

Note: You should be prepared for this delay, including arrangements for living expenses. If your finalized financial aid offers equal or exceed your balance due and you have no remaining requirements for the financial aid process, your tuition and fees will be deferred, and your enrollment will be exempt from cancellation due to nonpayment.

Implication of Drop/Withdraws

If you withdraw or stop attending before the semester is completed, you may be required to repay "unearned" financial aid. The percentage of unearned aid is equal to the number of calendar days remaining in the term divided by the number of calendar days in the term.

Any unearned funds returned to the Federal Student Aid program on your behalf will show as a balance owed on your Manhattan Tech account statement. Failure to repay balances owed will prevent future enrollment at Manhattan Tech and may result in your account being sent to collection.

Academic Eligibility for Financial Aid

Federal regulations require that financial aid recipients maintain Satisfactory Academic Progress (SAP) toward an eligible degree or certificate in order to remain eligible for Title IV Federal Financial Aid (this includes Federal Pell Grant, Federal Supplemental Educational Opportunity Grant, Federal College Work Study, Federal Direct Student Loans and Federal Direct Parent PLUS Loans).

Satisfactory Academic Progress standards are evaluated by the following criteria:

Cumulative SAP Grade Point Average (GPA) An undergraduate student must attain a minimum cumulative GPA of 2.00 (on a 4.00 scale) or higher for all coursework taken at Manhattan Tech (including all general education courses and repeats).

Pace (Percentage of Completion) Completion of 75% of attempted credit hours. This includes all enrollment periods whether or not financial aid was requested or received. For example: If a student attempts 15 credit hours but only completes 9 credit hours, he/she will have only completed 60% of the attempted hours and will not meet SAP requirements.

Maximum Time Frame The maximum time frame for students to complete their academic program (including general education courses and repeats) may not exceed 150% of the published length of the student's program. For example: Students enrolled in a 40-credit hour technical certificate program may be eligible for Title IV Federal Aid for a maximum of 60 credit hours. Students enrolled in a 62-credit hour associate degree program may be eligible for Title IV Federal Aid for a maximum of 93 credit hours. After 150% of the published length of the program has been attempted, students are no longer eligible for federal financial aid.

At the end of each enrolled semester, including summer, grades are submitted to the Registrar and Satisfactory Academic Progress is determined by the Office of Financial Aid in an automated process once grades are official. Students not meeting SAP are notified in writing that they are either on warning or are no longer eligible for Title IV Federal Aid for future semesters. A student may be placed on warning following the first term that he/she does not meet SAP requirements. While on warning the student may receive financial aid for one semester. A student loses financial aid eligibility the semester following the warning semester if he/she fails to come into compliance.

Title IV Federal Aid may be reinstated when SAP requirements (listed above) are met, or by appeal. In order to appeal, a student must complete the Satisfactory Academic Progress Appeal Form and submit it with appropriate documentation. Once an appeal is reviewed by the SAP appeal committee, the decision is final, and the student will be notified. Students changing majors or seeking additional degrees must complete an appeal form if the change or additional degree results in the student not meeting eligibility requirements.

A student who has lost Title IV Federal Aid eligibility may still enroll and pay tuition and fee charges from their own resources, unless academic policies prohibit it.

Note: Once a student submits a request to the SAP appeals committee and a decision has been reached, the student is ineligible to resubmit an appeal for the same term.

Military Education Benefits

GI Bill ®

If you served on Active Duty, you might be eligible for education benefits offered by the Department of Veterans Affairs. For example, the Post 9/11 GI Bill® provides financial support for educational and housing expenses to individuals with at least 90 days of aggregate service after September 10, 2001, or individuals discharged with a service-connected disability after 30 days. You must have received an honorable discharge to be eligible for the Post 9/11 GI Bill®.

If you are the spouse or child of a service member, you may be eligible for transfer of the service member's Post 9/11 GI Bill® benefits to you. The service member must officially transfer months of benefits to you.

For more information regarding this benefit contact the Department of Veterans Affairs at 888.442.4551, or online at www.gibill.va.gov or www.vets.gov.

Note: Students receiving Veteran's Education Benefits must submit the Manhattan Tech Veteran Enrollment Certification Form each semester prior to the Office of Financial Aid certifying courses.

Tuition Assistance (TA)

If you are currently active duty, National Guard or a Reservist, you may be eligible for funding offered through the Department of Defense Tuition Assistance (TA) program. National Guardsmen or Reservists eligible for educational benefits should contact the Office of Financial Aid to obtain necessary school documentation. These branches of service offer Tuition Assistance:

- Air Force
- Air Force Reserve
- Army and Army Reserve

- Army National Guard
- Marine Corps
- Navy

- Coast Guard
- State Tuition Assistance for Kansas Army and Air National Guard

My Career Advancement Account Scholarship (MyCAA)

MyCAA is available to spouses of service members on active duty. If you are the spouse of a service member who is serving on active duty Title 10 orders in the paygrades of E1-E6, O1-O3, or W1-W2, you may be eligible for financial assistance from the Department of Defense for education, training, and/or the occupational license and credentials necessary for a high demand, high growth portable career. Spouses married to members of the National Guard and reserve components in these same pay grades may also be eligible. For more information or to apply go to My CAA Website or call 800-342-9647.

Scholarships

Manhattan Tech Foundation Scholarships

The Manhattan Tech Foundation encourages all students to apply for the various scholarships available. Academic excellence, financial need, displayed leadership abilities, and participation in extracurricular activities are taken into consideration during the award process.

Manhattan Tech Foundation scholarship applications will be matched with the individual scholarship criteria. Students are required to submit only ONE application to be considered for every scholarship.

- Applications are released at https://manhattantech.edu/scholarships. Students must ensure they fill out the complete application, as incomplete/ late submissions will not be considered.
- All personal contact information and optional details must be completed to be eligible for all scholarships.

More information on scholarships and priority date deadlines can be found at: www.manhattantech.edu/scholarships

External Scholarships and Resources

Information on external scholarships and public assistance can be found at: www.manhattantech.edu/scholarships

Note: Manhattan Tech does not determine the recipient of these awards nor determine the awarding criteria. Questions regarding these awards should be directed to the organization providing the scholarship. The Financial Aid Office will only post scholarships which it believes to be legitimate to protect you from any scams. Please use your personal judgment before applying for any scholarships.

ACADEMIC PROGRAMS

The following programs of study are provided to assist students in planning their academic careers. Those courses listed as major specialization courses are required for completion of a technical certificate program as well as an Associate of Applied Science degree. Additionally, students pursuing an Associate of Applied Science degree must complete the general education and elective course requirements as outlined in the AAS Program of Study.

Academic Programs

The following programs of study are available to provide students the foundation for success in a dynamic and diverse global environment.

- Adult Education
- Automotive Technology
- Biotechnology ••
- Business Accounting
- Business Administrative Assistant
- Critical Environment Technologies ••
- Construction Technology
- Electric Power and Distribution
- Heating, Ventilation, and Air Conditioning
- Industrial Engineering Technology ••
- Information & Network Technology ••
- Medical Laboratory Techology
- Nursing: Associate Degree
- Nursing: Practical
- Welding Technology

Each program offers focused preparation in specific skills aimed at preparing graduates to pursue technologically advanced careers in the changing workplace. Successful completion of a program of study is recognized by the granting of a Technical Certificate or an Associate of Applied Science degree.

Degrees and technical certificates will be conferred in the name of the Manhattan Area Technical College Board of Directors to students successfully completing the required curriculum. Students finishing short-term courses will be granted written evidence of successful completion. Students not finishing a program of study may, upon written request, be issued a transcript of courses completed.

•• Program undergoing revisions, not accepting applicants for 2024-2025.

General Education Courses – 15 Credit Hours

Manhattan Tech provides general education courses that fulfill the AAS degree and certificate requirements for the College's own programs. In addition, the Kansas Board of Regents approves certain general education courses to be accepted by Kansas public post-secondary institutions. These include many ofManhattan Tech's general education courses.
See https://kansasregents.org/academic_affairs/transfer-articulation

English (3 credit hours)	Math (3 credit hours)	
COM 101 Composition Workshop	MAT 101 Technical Mathematics I	MAT 135 College Algebra
COM 105 English Composition I	MAT 108 Beginning Algebra	MAT 145 Elementary Statistics
COM 106 English Composition II	MAT 109 Technical Mathematics II	MAT 155 Trigonometry
COM 110 Technical Writing	MAT 110 Intermediate Algebra	
General Education Electives (9 credit hours)		
BSC 110 Biology	COM 116 Interpersonal Communication	PSY 125 Human Growth and Development
BSC 125 Anatomy and Physiology	HIS 105 US History to 1877	SOC 100 Introduction to Sociology
BSC 205 Microbiology	HIS 106 US History since 1877	SOC 150 Social Problems
CHM 105 Introduction to Chemistry	NTR 105 Nutrition	SOC 200 Marriage and Family
CHM 110 Chemistry I	PHY 100 General Physics	*Refer to line schedule for General Education current course offerings.*
CIS 100 Software Applications	POL 105 American Government	*manhattantech.edu/gened*
COM 115 Public Speaking	PSY 100 General Psychology	

For more information on general education courses contact an advisor. advising@manhattantech.edu

View full general education course offerings online: www.manhattantech.edu/general-education-courses

ASSOCIATE OF APPLIED SCIENCE
IN APPLIED TECHNOLOGIES

The Associate of Applied Science in Applied Technologies degree option allows students to design an individualized program of study in order to fulfill a unique career goal that cannot be met through any single technology program offered by the College.

ASSOCIATE OF APPLIED SCIENCE
IN APPLIED TECHNOLOGIES

The Associate of Applied Science in Applied Technologies degree will be awarded upon satisfactory completion of:

- 45 Technical Program credit hours from at least 2 different disciplines
- 15 general education credits

An Associate of Applied Science in Applied Technologies 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 a college.

Students choosing the AAS in Applied Technologies degree option will work with their respective advisor to explore the various options of pursing this degree.

Completion of specific technical courses could lead to industry recognized credentials.

EXAMPLE: HIGH SCHOOL STUDENT

High School student takes select welding, automotive, and construction courses while in High School then, if needed, enrolls at Manhattan Tech taking additional required technical couses and general education courses. *Some general education courses coud be taken while in high school as well.*

- High School Welding Courses - 19 credit hours
- High School Automotive Courses - 12 credit hours
- High School Construction Courses - 5 credit hours
- High School Business Courses - 9 credit hours
- General Education Courses - 15 credit hours (taken at H.S. or Manhattan Tech)
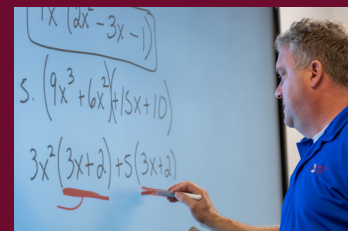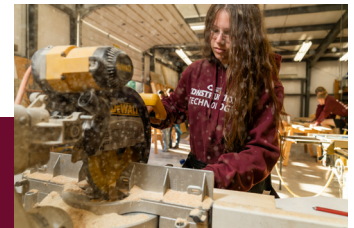
ADULT EDUCATION

PROGRAM **DESCRIPTION**

The Adult Education program is designed to prepare students for the next step in their personal and professional lives. Our High School Diploma Program not only prepares students to pass the GED exams, but to pass with College-Ready® Scores. Our ESL courses offer unique levels of individuality and allows students to become fully immersed in the English language.

This level of instruction not only prepares all students for continuing their education in post-secondary education, but also prepares individuals for their careers with soft skills and career related instruction. Class are Monday – Thursday at various times throughout the day. Call for more information.

PROGRAM **ELIGIBILITY**

GED
Requires one of the following conditions under Kansas Board of Regents (KBOR) oversight:
  • Does not have a high school diploma; and has not passed all four modules of the GED® Exam
  • Does not have basic, reading, writing, or math skills, as determined by scores on the TABE tests
Underage students (16 & 17-year-old) must present documentation at the time of enrollment to show they are not truant and/or currently enrolled in high school.

ESL
The ESL program is for those individuals who do not have adequate proficiency in the English language to function as a citizen, employee in the Manhattan community, or the ability to communicate effectively with a child's teacher. Individuals who ARE eligible for ESL classes under the AEFLA grant must meet ALL the following guidelines:
  • must be 16 years of age and over
  • does not have basic listening, reading, writing, and/or mathematics skills, as determined by scores on the TABE tests
  • must have an immigrant Visa Status or a U.S. Citizen

ESL RECREATIONAL STUDENTS
Any student who self identifies as a Non-immigrant Visa Holder is considered a Recreational Student. Recreational students may apply for enrollment at a rate of $300 per course per quarter, as class space permits. Orientations for Recreational Students occur quarterly of a given school year if seating is available.

ADMISSION REQUIREMENTS
  • Complete online application
  • Attend an orientation

AUTOMOTIVE TECHNOLOGY

PROGRAM **DESCRIPTION**

The Automotive Technology program is a two-year, four semester program which prepares students for an Associate of Applied Science Degree. The program provides the necessary training to diagnose, test, and repair modern cars and light trucks. Graduates are ready for positions as entry-level automotive technicians, service writers, and with experience, service managers and automotive repair business owners.

The Automotive Technology program at Manhattan Tech is an Automotive Service Excellence (ASE) certified program. Students in the program have the option to be certified by the Mobile Air Conditioning Society (MACS) in refrigerant recover/recycling.

Manhattan Tech has articulation agreements with Pittsburg State University, Kansas State University, and Fort Hays State University. Through these agreements, students may transfer their Manhattan Tech credits towards a Bachelors degree.

PROGRAM **OUTCOMES**

- Possess skills for entry-level placement utilizing the laboratory/shop requirements identified by ASE.
- Successfully complete the ASE certification examination.
- Develop skills in automotive diagnosis and repair.
- Develop effective communication and interpersonal skills and future education.
- Demonstrate knowledge of automotive repair processes, activities and organization of work flow, direct communication flow in the work place, and maintain information accuracy throughout a project.
- Apply knowledge of the industry expectation of a quality employee, as related to timelines and cleanliness.

This program aligns with the Kansas Board of Regents Curriculum.

ASE CERTIFICATIONS:

- Brakes
- Suspension & Steering
- Automatic Transmission & Transaxle
- Manual Drive Train & Axles
- Electrical/Electronic Systems
- Engine Performance
- Engine Repair
- Heating & Air Conditioning

Accreditation:

ASE Education Foundation
1503 Edwards Ferry Rd., NE Ste 401
Leesburg, VA 20176
703.669.6650   info@ASEeducationFoundation.org

ADMISSION REQUIREMENTS
- College Placement Assessment Criteria
- Current unrestricted driver's license
- A Window's-based device is required for the program. Refer to System Requirements on manhattantech.edu
The mandatory cost of a required tool kit and uniform shirts will be added to student accounts during the semester the charges are incurred.

Automotive Technology Course Curriculum

Associates in Applied Science   66 Credit Hours

Technical Program Requirements   51 Credit Hours

COURSE NO.	COURSE TITLE			CREDITS
Year 1 Fall Semester				
AMT 109	Intro to Automotive Technology		*Cert C*	2
AMT 111	Electrical 1	*Cert A*	*Cert C*	3
AMT 116	Electrical 2		*Cert C*	2
AMT 121	Engine Performance 1	*Cert A*	*Cert C*	3
AMT 125	Engine Performance 2		*Cert C*	4
Year 1 Spring Semester				
AMT 149	Suspension & Steering 1	*Cert A*	*Cert C*	3
AMT 152	Suspension & Steering 2		*Cert C*	2
AMT 170	Brakes 1	*Cert A*	*Cert C*	3
AMT 171	Brakes 2		*Cert C*	2
AMT 180	Electrical 3		*Cert C*	3
Year 2 Fall Semester				
AMT 200	Automatic Transmissions & Transaxles 1	*Cert A*	*Cert C*	3
AMT 201	Automatic Transmissions & Transaxles 2		*Cert C*	3
AMT 205	Manual Transmissions & Transaxles		*Cert C*	4
AMT 221	Engine Repair 1		*Cert C*	2
Year 2 Spring Semester				
AMT 250	Engine Repair 2		*Cert C*	3
AMT 265	Engine Performance 3		*Cert C*	3
AMT 270	Electrical 4		*Cert C*	2
AMT 275	Heating & Air Conditioning	*Cert A*	*Cert C*	4

General Education Requirements   15 Credit Hours

COURSE NO.	COURSE TITLE	CREDITS
English		**3 required**
COM 105	English Composition I	3
COM 110	Technical Writing	3
Math		**3 required**
MAT 109	Technical Mathematics II	3
MAT 110	Intermediate Algebra or higher	3
Additional General Education		**9 required**

Full general education elective list is located online: manhattantech.edu/gened

Certificate A Requirements   19 Credit Hours

Technical Specialty courses marked with "***Cert A***"   *Certificate A is for students already employed in the automotive technology field who are seeking ASE certification.*

Certificate C Requirements   51 Credit Hours

All Technical Specialty courses

BIOTECHNOLOGY

PROGRAM **DESCRIPTION**

The Advanced Biotechnology Certificate (ABC), for applicants who hold a science degree, is designed to educate students in laboratory skills necessary for employment in various industry and research laboratories.

ADVANCED BIOTECHNOLOGY CERTIFICATE:

This certificate program prepares students to apply scientific principles and technical skills in support of a variety of laboratories. The program includes instruction in cGLP practices and procedures; techniques for analysis, testing and inspection; laboratory instrumentation and equipment operation and maintenance; laboratory and materials handling safety; and computer applications that would apply to the broad spectrum of biotechnology industries including health and medical, industrial and environmental, food and agriculture, as well as other emerging industries in the growing field of biotechnology. In short, this program teaches one how to work in a lab. **This advanced certificate program requires a prior degree award in a science field as well as specific science course work, or permission of the designee.**

PROGRAM **OUTCOMES**

- Demonstrate critical thinking skills and trouble-shooting abilities necessary to manage work in a biotechnology lab.
- Practice successful strategies to work with nucleic acids, evidenced by demonstrating the ability to transform bacteria with GFP.
- Possess the ability to maintain mammalian cell lines evidenced by demonstrated ability to resolve contaminated culture issues.
- Possess the knowledge and entry-level skills necessary to obtain recombinant proteins from a biomass.
- Demonstrate the ability to implement safety procedures relating to instrumentation and hazards of biotechnology labs.
- Make scientific presentations in a professional manner.

REAL JOBS available in: agriculture, wheat breeding, food science and safety, genetics, biofuels, molecular biology, diagnostics and pharmaceutical manufacturing.

ADMISSION REQUIREMENTS

Advanced Biotechnology Certificate: Degree in a Science field, Submit official transcripts & ABC Program Application, and schedule interview with the designee

Biotechnology Laboratory Technician AAS: Completion of prerequisite courses, Submit official transcripts & BLT Program application, and schedule interview with the Director of Bioscience

Biotechnology Course Curriculum

PENDING KBOR APPROVAL

Certificate A Requirements

17 Credit Hours

Technical Program Requirements

COURSE NO.	COURSE TITLE	CREDITS
BIO 255	Biotechnology Techniques	5
BIO 265	Molecular and Cellular Techniques	5
BIO 285	Protein Techniques	5
BIO 292	Biotechniques Shadowing	1
EMP 1901	Global Employment Standards	1

BUSINESS ACCOUNTING

PROGRAM **DESCRIPTION**

The Business Accounting program provides students with course options for their chosen career field. Students earning a certificate or AAS degree will enter the workforce ready to meet the needs of the workplace.

Classroom activities and projects simulate actual office situations encountered in today's global workplace. Students complete courses designed to develop critical and creative thinking, computation, communication, lifelong-learning, technical, time-management, problem solving, teamwork, and organizational skills. Students use up-to-date computer hardware and software currently used in business and industry.

Business Accounting Prepares students for entry-level careers as bookkeepers, payroll clerks, accounting clerks, accounting assistants, and other office support positions. As the number of organizations increases and financial regulations become stricter, there will be greater demand for these workers to maintain books and provide accounting services.

PROGRAM **OUTCOMES**

- Exhibit interpersonal skills in a team setting.
- Create professional employment documents.
- Demonstrate knowledge of operations of a business.
- Utilize the internet research methods to obtain credible information.
- Utilize industry-specific software to develop professional documents, presentations, workbooks, and databases and to enhance productivity.
- Demonstrate knowledge of the ethical frameworks of business.

- Identify and correct common communication problems including awareness of diversity issues which affect the workplace.
- Exhibit ability to effectively communicate, both through oral and written communications.
- Understand and apply principles associated with maintaining good mental and physical health, professionalism in the workplace, work ethic, and personal grooming.
- Create and organize work to be included in a professional portfolio.

CERTIFICATIONS:
- Office Proficiency Assessment and Certification
- Microsoft Office Specialist Certifications

ADMISSION REQUIREMENTS
- College Placement Assessment Criteria

Business Accounting Course Curriculum
Associates in Applied Science   62 Credit Hours

Technical Program Requirements   39 Credit Hours

COURSE NO.	COURSE TITLE		CREDITS
ACC 100	Business Accounting	Cert B	3
or			
ACC 120	Financial Accounting	Cert B	3
ACC 125	Computerized Accounting	Cert B	3
ACC 130	Payroll Accounting	Cert B	3
ACC 140	Managerial Accounting	Cert B	3
ACC 270	Tax Accounting	Cert B	3
BUS 111	Personal Finance	Cert B	3
BUS 120	Business English	Cert B	3
BUS 125	Business Communication	Cert B	3
BUS 126	Introduction to Business		3
BUS 185	Business Ethics & Human Relations	Cert B	3
or			
BUS 190	Leadership Development		
BUS 290	Business Capstone		1
CIS 100	Software Applications	Cert B	3
CIS 116	Spreadsheet Management		2
CIS 121	Word Processing		2
EMP 1901	Global Employment Standards		1

Suggested Technical Electives   8 Credit Hours

COURSE NO.	COURSE TITLE	CREDITS
ACC 100	Business Accounting	3
ACC 120	Financial Accounting	3
BUS 130	Records & Information Management	3
BUS 199	Business Internship	1-3
BUS 210	Workstation Management	3
BUS 220	Administrative Procedures	3
BUS 255	Principles of Management	3
CIS 126	Database Management	2
CIS 150	Web Page Applications	3
CIS 155	Integrated Applications	2
CRT 100	Principles of Information Assurance	1

Ŧ *Additional Technical Elective listed in [back of catalog](#); see an advisor for more information*

General Education Requirements   15 Credit Hours

COURSE NO.	COURSE TITLE	CREDITS
English		**3 required**
COM 105	English Composition I or higher	3
Math		**3 required**
MAT 109	Technical Mathematics II	3
MAT 110	Intermediate Algebra or higher	3
Additional General Education		**9 required**

Full general education elective list is located online: manhattantech.edu/gened

Certificate B Requirements   36 Credit Hours

Technical Specialty courses marked with "*Cert B*" & MAT 108 Beginning Algebra or higher

BUSINESS ADMINISTRATIVE ASSISTANT

PROGRAM **DESCRIPTION**

The Business Administrative Assistant program provides students with course options for their chosen career field. Students earning a certificate or AAS degree will enter the workforce ready to meet the needs of the workplace.

Classroom activities and projects simulate actual office situations encountered in today's global workplace. Students complete courses designed to develop critical and creative thinking, computation, communication, lifelong-learning, technical, time-management, problem solving, teamwork, and organizational skills. Students use up-to-date computer hardware and software currently used in business and industry.

Administrative Assistant Equips office professionals with the skills necessary to respond to the requirements of today's workplace. Students will complete courses designed to develop proficiency in the use of integrated software, analysis and coordination of office duties and systems, business operations, basic accounting, and other courses specific to an office environment.
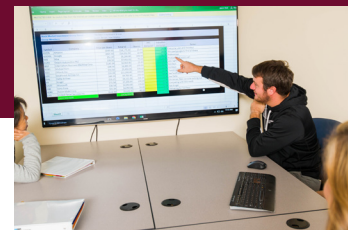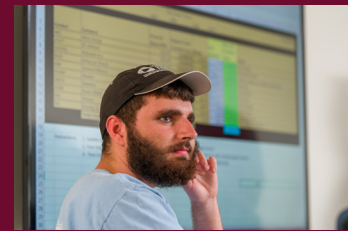
PROGRAM **OUTCOMES**

- Exhibit interpersonal skills in a team setting.
- Create professional employment documents.
- Demonstrate knowledge of operations of a business.
- Utilize the internet research methods to obtain credible information.
- Utilize industry-specific software to develop professional documents, presentations, workbooks, and databases and to enhance productivity.
- Demonstrate knowledge of the ethical frameworks of business.

- Identify and correct common communication problems including awareness of diversity issues which affect the workplace.
- Exhibit ability to effectively communicate, both through oral and written communications.
- Understand and apply principles associated with maintaining good mental and physical health, professionalism in the workplace, work ethic, and personal grooming.
- Create and organize work to be included in a professional portfolio.

CERTIFICATIONS:

- Office Proficiency Assessment and Certification
- Microsoft Office Specialist Certifications

ADMISSION REQUIREMENTS
- College Placement Assessment Criteria

Business Administrative Assistant Course Curriculum
Associates in Applied Science

62 Credit Hours

Technical Program Requirements

40 Credit Hours

COURSE NO.	COURSE TITLE		CREDITS
ACC 100	Business Accounting	*Cert B*	3
BUS 111	Personal Finance	*Cert B*	3
BUS 255 or	Principles of Management		
BUS 120	Business English	*Cert B*	3
BUS 125	Business Communication	*Cert B*	3
BUS 126	Introduction to Business		3
BUS 130	Records & Information Management	*Cert B*	3
BUS 185	Business Ethics & Human Relations	*Cert B*	3
BUS 210	Workstation Management		3
BUS 220	Administrative Procedures	*Cert B*	3
BUS 290	Business Capstone		1
CIS 100	Software Applications	*Cert B*	3
CIS 116	Spreadsheet Management	*Cert B*	2
CIS 121	Word Processing	*Cert B*	2
CIS 126	Database Management	*Cert B*	2
CIS 155	Integrated Applications		2
EMP 1901	Global Employment Standards		1

Suggested Technical Electives

7 Credit Hours

COURSE NO.	COURSE TITLE	CREDITS
ACC 120	Financial Accounting	3
ACC 125	Computerized Accounting	3
ACC 130	Payroll Accounting	3
ACC 140	Managerial Accounting	3
BUS 199	Business Internship	1-3
CIS 150	Web Page Applications	3
CRT 100	Principles of Information Assurance	1

Ŧ *Additional Technical Elective listed in [back of catalog](); see an advisor for more information*

General Education Requirements

15 Credit Hours

COURSE NO.	COURSE TITLE	CREDITS
English		**3 required**
COM 105	English Composition I or higher	3
Math		**3 required**
MAT 109	Technical Mathematics II	3
MAT 110	Intermediate Algebra or higher	3
Additional General Education		**9 required**

Full general education elective list is located online: manhattantech.edu/gened

Certificate B Requirements

33 Credit Hours

Technical Specialty courses marked with "*Cert B*" & MAT 108 Beginning Algebra or higher

CONSTRUCTION TECHNOLOGY

PROGRAM **DESCRIPTION**

The Construction Technology program offers training in residential and commercial construction needed in the workforce today. This training uses the National Center for Construction Education and Research (NCCER) curriculum. Course work includes safety, blueprint reading, tools and materials, framing, interior and exterior finishing, roofing, and concrete. Application and practice of skills is accomplished through the construction of projects within the local area.

PROGRAM **OUTCOMES**

- Have the knowledge and skills to operate manual and power tools used in residential construction including skill, reciprocating, table and concrete saws, hammer drills, drills, and air guns.
- Be familiar with and have practiced job site safety requirements.
- Be introduced to basic blueprint reading.
- Be introduced to International and local building codes and how those standards apply to residential construction.
- Be made aware that changes may occur to building codes over time and that those changes must be monitored and adhered to.
- Apply problem-solving skills creatively and critically when faced with unforeseen construction dilemmas.
- Be able to use math skills to square a foundation and calculate rafter lengths
- Communicate with instructor, as they should with future employer by notifying instructor of absences, work as a team member to complete worksite projects, and display a positive attitude toward the profession.

This program aligns with the Kansas Board of Regents Curriculum.

CERTIFICATIONS:

- OSHA 10
- NCCER Core
- NCCER Carpentry Level 1
- NCCER Carpentry Level 2

Accreditation:

National Center for Construction Education & Research (NCCER)
13614 Progress Blvd.
Alachua, FL 32615
386.518.6500

ADMISSION REQUIREMENTS
- College Placement Assessment Criteria

Construction Technology Course Curriculum

Associates in Applied Science

<div align="right">61 Credit Hours</div>

Technical Program Requirements

<div align="right">34 Credit Hours</div>

COURSE NO.	COURSE TITLE			CREDITS
Fall Semester				
BTR 102	OSHA 10 Construction Industry Certification	*Cert A*	*Cert B*	1
BTR 106	Introductory Craft Skills	*Cert A*	*Cert B*	3
BTR 116	Carpentry Basics	*Cert A*	*Cert B*	4
BTR 121	Floors, Walls & Ceiling Framing	*Cert A*	*Cert B*	4
BTR 131	Roof Framing	*Cert A*	*Cert B*	3
BTR 136	Windows, Doors & Stairs	*Cert A*	*Cert B*	3
Spring Semester				
EMP 1901	Global Employment Standards		*Cert B*	1
BTR 143	Concrete 1		*Cert B*	3
BTR 155	Drywall, Installation & Finishing		*Cert B*	3
BTR 160	Interior Finish Carpentry		*Cert B*	5
BTR 175	NCCER Carpentry Level 2		*Cert B*	4

Suggested Technical Electives

<div align="right">12 Credit Hours</div>

COURSE NO.	COURSE TITLE	CREDITS
ACC 100	Business Accounting	3
BTR 104	OSHA 30 Construction Industry Certification	2
BUS 111	Personal Finance	3
BUS 126	Introduction to Business	3
BUS 185	Business Ethics & Human Relations	3
BUS 255	Principles of Management	3

Ŧ *Additional Technical Elective options are available; see an advisor*

General Education Requirements

<div align="right">15 Credit Hours</div>

COURSE NO.	COURSE TITLE	CREDITS
English		3 required
COM 105	English Composition I	3
COM 110	Technical Writing	3
Math		3 required
MAT 109	Technical Mathematics II	3
MAT 110	Intermediate Algebra or higher	3
Additional General Education		9 required

Full general education elective list is located online: manhattantech.edu/gened

Certificate A Requirements

<div align="right">18 Credit Hours</div>

Technical Specialty courses marked with "*Cert A*"

Certificate B Requirements

<div align="right">37 Credit Hours</div>

Technical Specialty courses marked with "*Cert B*" & MAT 108 Beginning Algebra OR MAT 101 Tech Math I

CRITICAL ENVIRONMENT TECHNOLOGIES

PROGRAM **DESCRIPTION**

The Critical Environment Technologies (CET) Program prepares students to work on building systems in high-containment laboratories, clean rooms, hospitals, data centers, production facilities, and other facilities that require special skills and knowledge to maintain critical environments.

Students are given a foundation of knowledge and skills that are highly valued in any facility management position—in electrical, IT and BACnet, building system automation technologies, HVAC, plumbing, lighting, and security systems. For each building system, special considerations with regard to critical environments is stressed: the criticality of maintaining tight pressure-differences in HVAC systems, HEPA filtration needs and procedures, biosafety cabinet and fume hood effects, no-fail electrical and backup systems, multi-level and high security, waste neutralization, and the special safety gear and safe practices required for working in high-containment. The interdependency of automated building systems, and the criticality of understanding this interdependency with respect to safety, is emphasized.

A strict and serious safety culture is upheld. Students begin the program with two required safety courses, an OSHA 30 course and a Biohazards Risk Reduction course, and then continue to learn aspects of safety associated with building systems and critical environments throughout the program.

PROGRAM **OUTCOMES**

- To make Kansas the first State in the nation to offer technical degree and certificate programs for students wishing to pursue careers in critical environment technologies.
- To provide mechanical and electrical competencies that will allow students to pursue careers in bio-containment laboratories and other critical environments.
- To enhance a workforce by providing specialized knowledge and skills required to safely perform operational and maintenance duties within critical environment facilities.
- To educate students in fundamental concepts that will allow them to operate, maintain, and troubleshoot building system-related equipment, including those associated with critical environments.
- Properly follow procedures for donning personal protective equipment, entering biocontainment facilities, and conducting maintenance and operational tasks in critical environments.

GRADUATION REQUIREMENTS:

Associates in Applied Science – 62 Semester Credit Hours with a minimum 2.0 GPA.
Certificate B – 38 Semester Credit Hours with a minimum 2.0 GPA.

ADMISSION REQUIREMENTS
- TBD

Critical Environment Technologies Course Curriculum

Associates in Applied Science   PROGRAM UNDER REVIEW   62 Credit Hours

Technical Specialty Courses   44 Credit Hours

COURSE NO.		COURSE TITLE		CREDITS
Year 1 Fall Semester				
COM 105	or	English Composition I	*Cert B*	3
COM 110		Technical Writing		3
MAT 110	or	Intermediate Algebra	*Cert B*	3
MAT 109		Technical Mathematics II		3
BIO 230		Biohazards Risk Reduction	*Cert B*	2
CET 101		OSHA 30 General Industry (CET)	*Cert B*	2
CET 111		AC/DC Circuits I	*Cert B*	4
CET 124		Building Systems & CET: Plumbing & Waste Neutralization	*Cert B*	2
Year 1 Spring Semester				
CET 122		Building Systems & CET: HVAC	*Cert B*	2
CET 211		AC/DC Circuits II	*Cert B*	3
CET 221		Basic Controls	*Cert B*	5
CRT 165		Modern Information Technology Networks	*Cert B*	3
GEN	••	General Education Elective		3
Year 2 Fall Semester				
CET 121		Building Systems & CET: Electrical and Lighting	*Cert B*	2
CET 222		Building Automation System Controls and Programming	*Cert B*	3
CET 223		Applied Building System Controls		5
CET 231		Building Automation Networking and BACnet		2
TECH	Ŧ	Technical Elective		3
Year 2 Spring Semester				
CET 123		Building Systems & CET: Security	*Cert B* ^	1
CET 241		Airflow in Commercial and Critical Environments		3
CET 299		CET Capstone Project	*Cert B* +	3
GEN	••	General Education Elective		6
TECH	Ŧ	Technical Elective		2

•• General Education Elective list is located on .

Suggested Technical Electives   5 Credit Hours

COURSE NO.	COURSE TITLE	CREDITS
BUS 185	Business Ethics and Human Relations	3
BUS 255	Principles of Management	3
CIS 116	Spreadsheet Management	2
CIS 126	Database Management	2
CRT 100	Principles of Information Assurance	1
CRT 126	Advanced Operating Systems & PC Hardware	5
HVA 1044	HVAC Fundamentals	4

Ŧ *Additional Technical Electives listed in back of catalog; see an advisor for more information*

Certificate B Requirements   38 Credit Hours

Technical Specialty courses marked with "***Cert B***"

^ CET 123 will be taken during Year 1 Spring Semester

+ CET 299 will be taken during Year 2 Fall Semester

ELECTRIC POWER AND DISTRIBUTION

PROGRAM **DESCRIPTION**

The Electric Power and Distribution program enhances students' knowledge and technical skills required to succeed in the electrical distribution industry. Graduates of the Electric Power and Distribution program will be able to successfully install, maintain, and operate electrical systems to supply electrical energy to residential, commercial, and industrial customers and to join gas and electrical underground generation facilities.

The EPD program provides the training needed to construct, operate, and maintain power line equipment. This program is one of only a handful in the United States that has open admission to the public. The program begins in January of each year and a summer internship is required.

PROGRAM **OUTCOMES**

- Develop the necessary skills to gain entry-level employment in the electrical field. Perform operational and maintenance duties within critical environment facilities.
  - Demonstrate the ability to: operate line equipment, build and maintain overhead and underground power lines, install transformers, capacitors, and KWH meters, tie rope knots, operate hydraulic equipment such as aerial lift trucks, digger/derrick trucks, and trencher, successfully complete an internship in the electric power and distribution field.
- Develop industry-wide safe work practices per American Public Power guidelines.
  - Attain certification in both CPR and First Aid courses
  - Understand Occupational Safety and Health Act requirements and rules
  - Master climbing wood pole structures with and without the use of a pole safety strap
  - Use protective equipment such as fuses, circuit breakers, and lightening arrestors
- Effectively communicate both verbally and in writing.
  - Demonstrate oral communication skills by participating in a simulated job interview and receiving an acceptable rating from the interviewer
  - Prepare a résumé
  - Adapt behaviors to function productively as a team member in the workplace
- Develop the mathematical skills necessary to calculate electrical loads, weights, and measures.
  - Know and apply appropriate mathematical functions for the field (e.g., Ohm's Law, Pythagorean Theorem).

CERTIFICATIONS: OSHA 10

ADMISSION REQUIREMENTS

- Applicants must be 18 years of age prior to beginning the program in January
- Verification of an unrestricted Class A Commercial Drivers' License (CDL) by submitting a copy of current, valid CDL with manual endorsement
- College Placement Assessment Criteria
- The mandatory cost of a required tool kit will be added to student accounts during the semester the charges are incurred.

Electric Power and Distribution Course Curriculum

Associates in Applied Science   63 Credit Hours

Technical Program Requirements   48 Credit Hours

COURSE NO.	COURSE TITLE		CREDITS
Spring Semester			
EPD 101	OSHA 10 ••	*Cert C*	1
ALH 005	AHA First Aid/CPR/AED (6 Clock Hours)		0
EPD 103	Basic Electricity	*Cert C*	1
EPD 105	Climbing Skills	*Cert C*	4
EPD 110	Pole Framing & Construction Specifications	*Cert C*	4
EPD 120	Equipment Operation	*Cert C*	3
EPD 125	Setting and Replacing Poles	*Cert C*	1
EPD 1376	Basic Transformer Theory and Transformer Installation	*Cert C*	6
EMP 1901	Global Employment Standards	*Cert C*	1

•• *Online class; must be completed in order to enroll in the second semester.*

COURSE NO.	COURSE TITLE		CREDITS
Summer Semester			
EPD 199	Utility Internship	*Cert C*	8
Fall Semester			
EPD 140	Service Installation & Metering	*Cert C*	4
EPD 145	Conductor Installation & Repair	*Cert C*	4
EPD 150	Rubber Gloving & Hot Sticking Methods	*Cert C*	3
EPD 160	Underground Distribution	*Cert C*	3
EPD 170	Fusing & System Coordination	*Cert C*	1
EPD 180	Substations & Voltage Regulation	*Cert C*	4

General Education Requirements   15 Credit Hours

COURSE NO.	COURSE TITLE	CREDITS
English		3 required
COM 105	English Composition I	3
COM 110	Technical Writing	3
Math		3 required
MAT 109	Technical Mathematics II	3
MAT 110	Intermediate Algebra or higher	3
Additional General Education		9 required

Full general education elective list is located online: manhattantech.edu/gened

Certificate C Requirements   51 Credit Hours

Technical Specialty courses marked with "*Cert C*" & MAT 101 Technical Math 1 or higher

HEATING, VENTILATION, AND AIR CONDITIONING

PROGRAM **DESCRIPTION**

This program is designed to prepare HVAC mechanics and apprentices for entry-level employment in a wide range of construction, maintenance, and service positions in business and industry. The program prepares students to install, service, and repair air conditioning systems. The program provides instruction in residential air conditioning, commercial air conditioning, and heating systems. Students will be E.P.A. (Environmental Protection Agency) 608 and OSHA 10 certified.

PROGRAM **OUTCOMES**

- Diagnose and repair electrical and mechanical problems in heating and cooling systems.
- Design residential heating and air conditioning systems.
- Operate heating and air conditioning equipment properly.
- Maintain a professional appearance in the workplace.
- Demonstrate interpersonal skills in greeting customers, explaining repairs and discussing the approximate cost of the service.
- Inspect work areas and correct safety hazards.
- Work cautiously and safely.
- Demonstrate safe removal procedures from electrical and mechanical components.

CERTIFICATIONS:

- OSHA 10
- EPA 608

This program aligns with the Kansas Board of Regents Curriculum.

ADMISSION REQUIREMENTS
- College Placement Assessment Criteria
- Current unrestricted driver's license
The mandatory cost of a required tool kit and uniform shirts will be added to student accounts during the semester the charges are incurred.
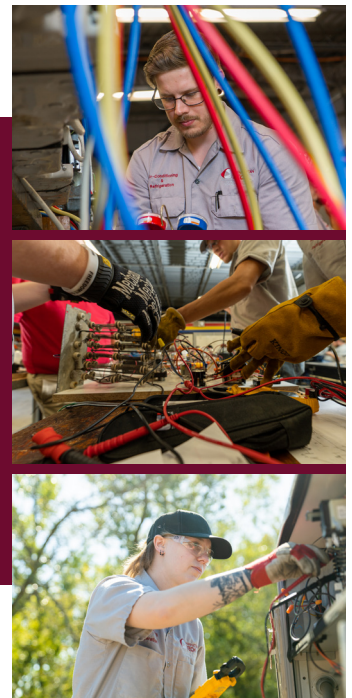
Heating, Ventilation, and Air Conditioning Course Curriculum

Associates in Applied Science

61 Credit Hours

Technical Program Requirements

34 Credit Hours

COURSE NO.	COURSE TITLE		CREDITS
Fall Semester			
HVA 103	Safety Orientation / OSHA10 ••	*Cert B*	1
HVA 1044	HVAC Fundamentals	*Cert B*	4
HVA 1104	Electrical Fundamentals	*Cert B*	4
HVA 120	Domestic Refrigeration	*Cert B*	3
HVA 140	Heating System Fundamentals	*Cert B*	3
HVA 170	Design and Blueprint Reading	*Cert B*	3
Spring Semester			
HVA 130	Controls and Motors	*Cert B*	3
HVA 150	Cooling	*Cert B*	3
HVA 151	Advanced Refrigeration	*Cert B*	3
HVA 161	EPA608	*Cert B*	1
HVA 181	Commercial Refrigeration	*Cert B*	3
HVA 185	Workplace Skills	*Cert B*	1
HVA 199	Occupational Work Experience	*Cert B*	2

•• *Online class - must be completed in order to enroll in the second semester.*

Suggested Technical Electives

12 Credit Hours

COURSE NO.	COURSE TITLE	CREDITS
ACC 100	Business Accounting	3
BUS 111	Personal Finance	3
BUS 126	Introduction to Business	3
BUS 185	Business Ethics and Human Relations	3
BUS 255	Principles of Management	3
CRT 100	Principles of Information Assurance	1

Ŧ *Additional Technical Elective options are available; see an advisor*

General Education Requirements

15 Credit Hours

COURSE NO.	COURSE TITLE	CREDITS
English		3 Required
COM 105	English Composition I	3
COM 110	Technical Writing	3
Math		3 Required
MAT 109	Technical Mathematics II	3
MAT 110	Intermediate Algebra or higher	3
Additional General Education Courses		9 Required

Full general education elective list is located online: manhattantech.edu/gened

Certificate B Requirements

40 Credit Hours

Technical Specialty courses marked with "*Cert B*"		34
COM 105 or COM 110	English Composition 1 or Technical Writing	3
MAT 101	Technical Mathematics I or higher	3
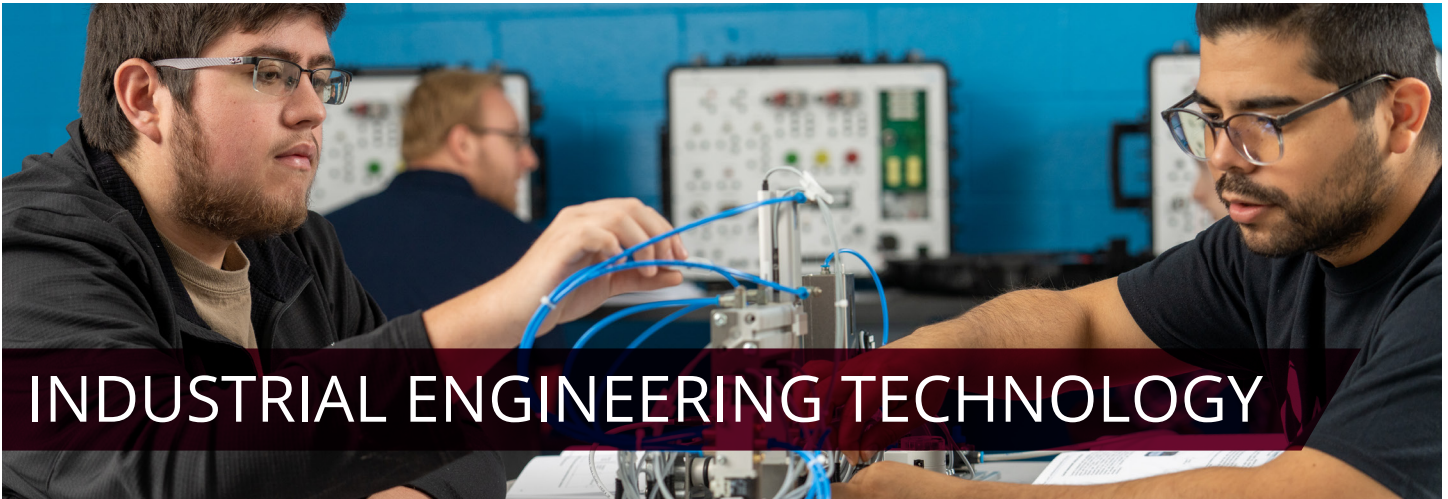
INDUSTRIAL ENGINEERING TECHNOLOGY

PROGRAM **DESCRIPTION**

Industrial Engineering Technology provides instruction of theory as well as hands-on application of skills required for advanced manufacturing, industrial automation, and mechanical troubleshooting. Some areas include safety, electrical, mechanical, hydraulics, pneumatics, robotics, PLC (programmable logic controller) programming, and industrial controls. These skills prepare students to be competitive in the modern industrial and maintenance fields.

CERTIFICATIONS:

Level 1 - Fundamentals
Level 1 certification requires 200 hours in subjects including PLC Fundamentals, Electricity, Mechanical Systems, Industry 4.0 Fundamentals and more. Students receive 17 – 23 credits, as well as certificate(s).

Level 2 - Advanced Mechatronics
Level 2 certification requires 240 hours in subjects including Applied PLC, Applied Fluid Power, Maintenance Strategies and more.
Students receive 35 – 47 credits, an associate's degree and certificates.
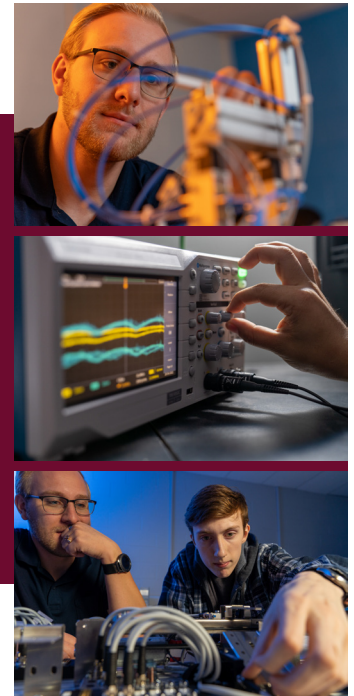
ADMISSION REQUIREMENTS
- College Placement Assessment Criteria
- The mandatory cost of a required tool kit will be added to student accounts during the semester the charges are incurred.

Industrial Engineering Technology Course Curriculum

Associates in Applied Science [PROGRAM UNDER REVIEW] 61 Credit Hours

Technical Program Requirements — 37 Credit Hours

COURSE NO.	COURSE TITLE		CREDITS
Year 1 Fall Semester			
IET 1001	OSHA 10	Cert B	1
IET 101	Fundamentals of Electricity AC/DC	Cert B	3
IET 102	Fluid Power 1	Cert B	3
IET 1044	Mechatronics 1	Cert B	4
Year 1 Spring Semester			
IET 103	Advanced Sensor Technology	Cert B	3
IET 105	Mechanical Drive 1	Cert B	3
IET 121	Basic Controls	Cert B	5
Year 2 Fall Semester			
IET 210	Mechanical Drive 2	Cert B	3
IET 220	Industrial Motor Controls	Cert B	4
Year 2 Spring Semester			
IET 230	Advanced Manufacturing and Process Logistics	Cert B	3
IET 240	Applied Industry 4.0	Cert B	5

Suggested Technical Electives — 9 Credit Hours

COURSE NO.	COURSE TITLE	CREDITS
BUS 185	Business Ethics and Human Relations	3
BUS 255	Principles of Management	3
CIS 116	Spreadsheet Management	2
CIS 126	Database Management	2
CRT 100	Principles of Information Assurance	1
CRT 126	Advanced Operating Systems & PC Hardware	5

₮ *Additional Technical Elective options are available; see an advisor*

General Education Requirements — 15 Credit Hours

| COURSE NO.	COURSE TITLE	CREDITS
English		3 Required
COM 105	English Composition I	3
COM 110	Technical Writing	3
Math		3 Required
MAT 109	Technical Mathematics II	3
MAT 110	Intermediate Algebra or higher	3
Additional General Education Courses		9 Required

Full general education elective list is located online: manhattantech.edu/gened

Certificate B Requirements — 37 Credit Hours

Technical Specialty courses marked with "*Cert B*"

MANHATTAN **TECH**

INFORMATION & NETWORK TECHNOLOGY

PROGRAM **DESCRIPTION**

The Information and Network Technology program is a comprehensive and rigorous program focused on the design, configuration, implementation, maintenance, and troubleshooting of modern Information Technology networks. Both hardware and software aspects are covered. Specific topics include LAN/WAN design and configuration, routing and switching, network analysis, reliability, physical and information security, fault tolerance, operating systems, computer and network hardware, virtualization and cloud computing, the Internet of Things, asset management, and troubleshooting. The program is capped off with students running a live network of their own in a team Capstone class. The Capstone brings together all knowledge domains from previous classes. The students must maintain, upgrade, repair, and support a network of about 40 users. Students who complete the program will be prepared for several highly demanded industry certifications. Successful Information Technology personnel must be adaptable, self-learners with good spatial, logical, and organizational skills. Strong math skills are not required but do generally indicate the individual's problem-solving ability.

PROGRAM **OUTCOMES**

- Design, implement, and maintain small and medium business networks.
- Install, configure, and manage a virtualized computer infrastructure.
- Deploy, configure, and manage a physical computer infrastructure.
- Utilize a command line environment to perform and automate tasks.
- Display the ability to troubleshoot complex computer hardware, operating system, and network system problems.
- Demonstrate the interpersonal skills needed for working successfully in a service-oriented profession.
- Work productively as a member of a team.
- Demonstrate the ability to make technology solution recommendations while considering fiscal ramifications.
- Demonstrate the ability to create appropriate and thorough technical documentation.
- Demonstrate research and verbal presentation skills.
- Demonstrate how to avoid various malware and cyberattack pitfalls.
- Responsibly utilize the Internet, PCs, smart phones, and other internet-enabled devices.
- Demonstrate how to secure and manage IT assets and digital data in storage and transit, including the use of physical security.
- Install, configure, and manage enterprise server level applications.

CERTIFICATIONS:

CompTIA IT Fundamentals+ • Red Hat Certified System Administrator • CompTIA A+ • Cisco Certified Network Associate CompTIA Cloud+ • VMware Certified Professional (Partial) • Microsoft Certified Systems Engineer (partial) CompTIA Security+ CompTIA Network + IAT Level I – A+, Network+ • DoD Directive 8570.01 • IAM Level I – Security+ • IAT Level II – Security+

Cisco Networking Academy
170 West Tasman Dr.
San Jose, CA 95134
www.netacad.com

VMware IT Academy
3401 Hillview Ave.
Palo Alto, CA 94304
www.vmware.com/company/
research/it-academy.html

Red Hat Academy
100 E. Davie St.
Raleigh, NC 27601
www.redhat.com/en/services/
training/red-hat-academy

ARTICULATIONS: Pittsburg State University • KSU-Salina • Washburn University • Fort Hays State University

ADMISSION REQUIREMENTS

- College Placement Assessment Criteria
- The mandatory cost of a required tool kit will be added to student accounts during the semester the charges are incurred.
- A Windows-based device is required for the program

Information & Network Technology Course Curriculum

Associates in Applied Science PROGRAM UNDER REVIEW 63 Credit Hours

Technical Program Requirements 43 Credit Hours

COURSE NO.	COURSE TITLE	MAPS TO	CREDITS
Year 1 Fall Semester			
CRT 100	Principles of Information Assurance		1
CRT 115	Information & Network Technology (INT) Essentials		1
CRT 126	Advanced Operating Systems & PC Hardware	A+ Certification	5
CRT 170	Introduction to Networks	Cisco CCNA Certification	3
Year 1 Spring Semester			
CRT 144	UNIX Fundamentals	RHCSA Certification	3
CRT 148	Microsoft Network OS		3
CRT 176	Switching, Routing, and Wireless Essentials	Cisco CCNA Certification	3
CRT 181	Network and Server Management (Capstone I)		3
Year 2 Fall Semester			
CRT 119	Windows Administration Using PowerShell		2
CRT 151	Infrastructure Virtualization		3
CRT 275	Enterprise Networking, Security, and Automation	Cisco CCNA Certification	3
CRT 288	Fundamentals of Information Systems Security	Security+ Certification	3
EMP 1901	Global Employment Standards		1
Year 2 Spring Semester			
CRT 281	Cloud Computing Fundamentals		3
CRT 282	Network Security		3
CRT 295	INT Capstone		3

Suggested Technical Electives 5 Credit Hours

COURSE NO.	COURSE TITLE	CREDITS
BUS 126	Introduction to Business	3
CC 210	Fundamental Computer Programming Concepts	4
CIS 116	Spreadsheet Management	2
CIS 126	Database Management	2
CRT 101	IT Fundamentals	3
CRT 165	Modern Information Technology Networks	3
CRT 231	Internet of Things Fundamentals and Security	3
CRT 279	Network Security	3
CRT 281 ^	Cloud Computing Fundamentals	3

^ Maps to CompTIA Cloud + Certification

Ŧ *Additional Technical Elective listed in back of catalog; see an advisor for more information*

General Ed Requirements 15 Credit Hours

COURSE NO.	COURSE TITLE	CREDITS
English		3 required
COM 105	English Composition I	3
COM 110	Technical Writing	3
Math		3 required
MAT 109	Technical Mathematics II	3
MAT 110	Intermediate Algebra or higher	3
Communication		3 required
COM 115	Public Speaking	3
COM 116	Interpersonal Communications	3
Additional General Education		6 required

Full general education elective list is located online: manhattantech.edu/gened

Certificate C Requirements 46 Credit Hours

COURSE NO.	COURSE TITLE	CREDITS
All Technical Specialty Courses		43
MAT 101 Tech Math I or higher		3

MEDICAL LABORATORY TECHNOLOGY

PROGRAM **DESCRIPTION**

Medical Laboratory Technicians prepare and analyze specimens using body fluids and cells. They use microscopes and other sophisticated laboratory equipment and computerized instruments to test and analyze results. Lab technicians usually work under the supervision of medical and clinical laboratory technologists. The Medical Laboratory Technology program uses a blended instructional model. Lectures are online and accessed through Manhattan Tech's learning management system. Laboratory and clinical skills training is provided in a traditional face-to-face format, using instruments and equipment found in the modern laboratory.

PROGRAM **OUTCOMES**

- MLT graduates will demonstrate entry level knowledge and competency in all areas of the clinical laboratory.
- MLT graduates will demonstrate an average of at least 75% on the Board of Certification exam as calculated by the most recent three year period.
- At least 70% of students who have begun the final half of the MLT program will successfully graduate from the program as calculated by the most recent three year period.
- MLT graduates will demonstrate an average of at least 70% employment rate either through employment in the field or a closely related field or continue their education within one year of graduation as calculated by the most recent three-year period.

This program aligns with the Kansas Board of Regents Curriculum.

CERTIFICATIONS: MLT ASCP Certification

Accreditation:

NAACLS
National Accrediting Agency
for Clinical Laboratory Sciences

National Accrediting Agency for Clinical Laboratory Sciences
5600 N River Rd
Des Plaines, IL 60018   773.714.8880

ADMISSION REQUIREMENTS

- Review and complete the requirements listed in the program Information Packet & Application
  manhattantech.edu/mlt/admissions

Medical Laboratory Technology Course Curriculum

Associates in Applied Science
68 Credit Hours

Technical Program Requirements
24 Credit Hours

COURSE NO.			COURSE TITLE	CREDITS
BSC 125	•		Anatomy and Physiology	5
BSC 205	•	+	Microbiology	5
CHM 110	•	+	Chemistry I	5
COM 105			English Composition I	3
COM 115			Public Speaking	3
		or		
COM 116			Interpersonal Communications	3
MAT 110			Intermediate Algebra or higher	3

• Must have been taken within 5yrs of acceptance into program or approved by program coordinator   + Lab Required

Technical Specialty Courses
44 Credit Hours

COURSE NO.	COURSE TITLE	CREDITS
Fall Semester		
MLT 1213	Introduction to the Laboratory for MLT	3
MLT 2216	MLT Hematology/Coagulation	6
MLT 2416	MLT Clinical Chemistry	6
MLT 2503	MLT Immunology	3
Spring Semester		
MLT 2303	MLT Urinalysis & Body Fluids	3
MLT 2706	MLT Pathogenic Microbiology	6
MLT 2806	MLT Immunohematology	6
ALH 101	Phlebotomy	3
Summer Semester		
MLT 2988	Clinical Internship I for MLT	8

All technical specialty courses consists of online lectures and face-to-face laboratory.

NOTE: MLT 1213 and ALH 101 may be taken prior to admission to the program.

NOTE: All MLT program requirements are listed in the MLT Admissions Packet available on the website.

NURSING: ASSOCIATE DEGREE

PROGRAM **DESCRIPTION**

The Associate Degree Nursing program provides a bridge from a licensed practical nurse to professional nurse by completing additional nursing courses and clinical practice. A registered nurse with an Associate Degree is a skilled health care provider who administers nursing care directly to patients and their families in a variety of settings. Graduates are eligible to take the National Council Licensure Examination for Registered Nurses (NCLEX-RN).

PROGRAM **OUTCOMES**

- Integrate caring behaviors in practicing the art and science of nursing within a diverse population.
- Implement professional standards & scope of practice within legal, ethical, & regulatory frame works.
- Collaborate with clients & members of the inter-professional health care team to optimize client outcomes.
- Formulate safe and effective clinical judgments guided by the nursing process, clinical reasoning, and evidence-based practice.
- Provide leadership in the management of care to meet client needs using available resources and current technology.
- Generate teaching and learning processes to promote and maintain health and reduce risks for a global population.
- Demonstrate effective communication methods to manage client needs and to interact with other health care team members.

This program aligns with the Kansas Board of Regents Curriculum.

Accreditation:

Accreditation Commission for Education in Nursing
3390 Peachtree Road NE, Ste 1400
Atlanta, GA 30326
404-975-5000   www.acenursing.org

ADMISSION REQUIREMENTS

- Review and complete the requirements listed in the program Information Packet & Application
  manhattantech.edu/adn/admissions

Associate Degree Nursing Course Curriculum

Associates in Applied Science   62 Credit Hours

Pre-requisites (2.0 cumulative GPA required)   38 Credit Hours

COURSE NO.	COURSE TITLE	CREDITS
BSC 125	Anatomy and Physiology	5
BSC 205	Microbiology ••	5
COM 105	English Composition I	3
COM 115 or	Public Speaking	3
COM 116	Interpersonal Communications	3
MAT 110	Intermediate Algebra	3
NTR 105	Nutrition	3
PSY 100	General Psychology	3
PSY 125	Human Growth and Development	3
NUR 199	Practical Nursing License ^	10

•• *Lab Required*   ^ *Nurse Practice Act pg 67 KSA 60-1-104(u)*

Technical Specialty Courses   24 Credit Hours

COURSE NO.	COURSE TITLE	CREDITS
1st Semester		
NUR 201	RN Transition Course	2
NUR 220	Nursing Across the Lifespan	10
2nd Semester		
NUR 230	Management of Patient Care	12

NOTE: All ADN program requirements are listed in the Associate Degree Nursing Admissions Packet available on the website.

NURSING: PRACTICAL

PROGRAM **DESCRIPTION**

Licensed Practical Nurses (LPN) give direct care to patients in a variety of settings under the immediate supervision of a registered nurse, physician, or dentist. The Practical Nursing program provides preparation for the LPN role through classroom and clinical experiences, using the Kansas Practical Nursing Core Curriculum. Upon completion of the program, the graduate will be eligible to apply for licensure as a practical nurse and to take the National Council Examination for Practical Nurses (NCLEX-PN). The curriculum also serves as the first level for students who want to continue their education in nursing.

Physical and Cognitive Expectations

The program of study in Manhattan Tech nursing programs includes both classroom and clinical instruction. Nursing students must be able to perform these activities that are comparable to those required for employment:

- Lifting and/or carrying moderately heavy objects and performing duties that regularly involve twisting the spine or extending the body while caring for patients.
- Assisting patients of all weights and sizes to change position.
- Standing or walking 8-12 hours a day with occasional stooping, crouching or kneeling.
- Coordinating eyes and hands or fingers rapidly and accurately in making precise movements.
- Communicating effectively and efficiently with patients and the health care team.
- Visual acuity to read a patients condition, to discriminate between measurements on equipment such as syringes or gauges, and to accurately use patient care supplies and equipment.
- Hearing for communication and for collection of information about patient condition.
- Interpreting instructions without assistance: written, oral, diagram or schedule formats.
- Physically responding to emergency patient calls, such as initiating CPR on a patient.

PROGRAM **OUTCOMES**

- Relationship-centered care: provide nursing care that is relationship-centered, caring, culturally sensitive and based on the physiological, psychosocial and spiritual needs of clients with commonly occurring health alterations that have predictable outcomes.
- Teamwork and Collaboration: collaborate with the client and members of the interprofessional health care team to promote continuity of client care and shared decision-making.
- Evidence based practice: use current evidence as a basis for nursing practice.
- Informatics: use information and client care technology to support the delivery of safe, quality client care.
- Quality Improvement: participate in quality improvement activities assessing their effect on client outcomes.
- Safety: provide an environment that is safe and reduces risk of harm for clients, self, and others.
- Professionalism: demonstrate accountability for client care that incorporates legal and ethical principles, regulatory guidelines, and standards of nursing practice.
- Leadership: use leadership skills that support the provision and coordination of client care.

Upon completion of the program students are prepared to take the NCLEX-PN exam

This program aligns with the Kansas Board of Regents Curriculum.

ADMISSION REQUIREMENTS

- Review and complete the requirements listed in the program Information Packet & Application
  manhattantech.edu/pn/admissions

Practical Nursing Course Curriculum

Certificate C

46 Credit Hours

Pre-requisites (2.0 cumulative GPA required)

14 Credit Hours

COURSE NO.	COURSE TITLE	CREDITS
BSC 125	Anatomy and Physiology	5
MAT 110	Intermediate Algebra	3
NTR 105	Nutrition	3
PSY 125	Human Growth and Development	3

Must be completed with a C or higher

Technical Program Requirements

32 Credit Hours

COURSE NO.	COURSE TITLE	CREDITS
Fall Semester		
NUR 107	KSPN Foundations of Nursing	4
NUR 108	KSPN Foundations of Nursing Clinical	2
NUR 1112	KSPN Fundamentals of Pharmacology and Safe Medication Administration	2
NUR 1175	KSPN Nursing Care of Adults I	5
NUR 118	KSPN Nursing Care of Adults I Clinical	3
Spring Semester		
NUR 133	Leadership, Roles, and Issues	1
NUR 134	KSPN Mental Health Nursing	2
NUR 136	KSPN Caring of Aging Adults	2
NUR 1375	KSPN Nursing Care of Adults II	5
NUR 138	KSPN Nursing Care of Adults II Clinical	3
NUR 170	KSPN Maternal Child Nursing	2
NUR 171	KSPN Maternal Child Clinical	1

All PN program requirements are listed in the Practical Nursing Admissions Packet available online.
(manhattantech.edu/practicalnursing)

WELDING TECHNOLOGY

PROGRAM **DESCRIPTION**

The Welding Program is an intense program designed to prepare students for immediate employment into the job market upon completion of the program. In addition to providing the specific technical skills necessary for employment, the program also includes general education knowledge necessary to function in today's society. Students receive classroom and hands-on training utilizing the latest welding and cutting equipment available in the industry to provide experience and allow for entry into a variety of welding professions. Students who successfully complete these classes will be capable of passing an AWS structural steel qualification test, D.1.1, by showing proficiency in Shield Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), Flux-Cored Arc Welding (FCAW), and Gas Tungsten Arc Welding (GTAW).

PROGRAM **OUTCOMES**

- Demonstrate the skill and knowledge to pass an all-position weld tests on plate to AWS D.1.1 code
- Use current guidelines and safety precautions in all welding laboratory activities
- Demonstrate the ability to follow safety procedures and demonstrate ethical work habits consistent with industry standards
- Apply appropriate safe work habits when operating oxy-fuel and arc-based welding equipment
- Apply welding shop safety procedures in an industrial setting
- Contribute to achieving team goals
- Apply communication skills in an industrial setting
- Use terminology associated with welding to communicate effectively with co-workers, supervisors, customers, inspectors, engineers and vendors
- Demonstrate production-welding skills consistent with industry standards
- Read blueprints, layout, and fabricate a weld to industry standards
- Demonstrate the ability to reason and be creative
- Demonstrate the ability to problem solve and think critically

QUALIFICATIONS:

Completion of the Welding Technology program prepares students to be proficient in AWS D.1.1 standards. See KBOR website for specific processes and welding position qualifications.

CERTIFICATIONS:

- OSHA10
- AWS Weld Procedure Qualification Tests Cert A: 1F/2F/3F/4F GMAW, 1F/2F GTAW, 1F/2F/3F/4F SMAW
- AWS Weld Procedure Qualification Tests Cert B: 1F/1G/2G/2F/3F/3G/4F/4G FCAW, 1G/2G/3G/4G GMAW, 1G GTAW, 1G/2G/3G/4G SMAW
- NC3 Welding Certifications: Welding Safety, Principles of Welding, Intro FCAW, Intro GMAW, Intro GTAW, Intro SMAW, Adv FCAW, Adv GMAW, Adv GTAW, Adv SMAW

This program aligns with the Kansas Board of Regents Curriculum.

ADMISSION REQUIREMENTS
- College Placement Assessment Criteria

The mandatory cost of a required tool kit will be added to student accounts during the semester the charges are incurred.

Welding Technology Course Curriculum

Associates in Applied Science   63 Credit Hours

Technical Program Requirements   42 Credit Hours

COURSE NO.	COURSE TITLE			CREDITS
Fall Semester				
WLD 1001	Welding Safety	*Cert A*	*Cert B*	1
WLD 1010	OSHA 10	*Cert A*	*Cert B*	1
WLD 110	Welding Metallurgy	*Cert A*	*Cert B*	1
WLD 1153	Blueprint Reading	*Cert A*	*Cert B*	3
WLD 118	Discontinuities and Defects	*Cert A*	*Cert B*	1
WLD 1303	Cutting Processes	*Cert A*	*Cert B*	3
WLD 140	Intro to SMAW	*Cert A*	*Cert B*	3
WLD 150	Intro to GMAW	*Cert A*	*Cert B*	3
WLD 171	Intro to GTAW	*Cert A*	*Cert B*	3
EMP 1901	Global Employment Standards		*Cert B*	1
Spring Semester				
WLD 116	Fabrication		*Cert B*	1
WLD 145	SMAW Advanced Structural		*Cert B*	4
WLD 155	GMAW Advanced		*Cert B*	4
WLD 1604	Flux Cored Arc Welding Structural		*Cert B*	4
WLD 165	SMAW/GTAW Pipe Welding		*Cert B*	3
WLD 1764	GTAW Advanced		*Cert B*	4
WLD 190	Welding Project Management			
or			*Cert B*	2
WLD 199	Occupational Work Experience			

Suggested Technical Electives   ₮ *Additional Technical Elective options are available; see an advisor*   6 Credit Hours

COURSE NO.	COURSE TITLE	CREDITS
ACC 100	Business Accounting	3
ACC 120	Financial Accounting	3
BUS 111	Personal Finance	3
BUS 126	Introduction to Business	3

General Education Requirements   15 Credit Hours

COURSE NO.	COURSE TITLE	CREDITS
English		3 required
COM 105	English Composition I	3
COM 110	Technical Writing	3
Math		3 required
MAT 109	Technical Mathematics II	3
MAT 110	Intermediate Algebra or higher	3
Additional General Education		9 required

Full general education elective list is located online: manhattantech.edu/gened

Certificate A Requirements   19 Credit Hours

Technical Specialty courses marked with "*Cert A*"

Certificate B Requirements   42 Credit Hours

Technical Specialty courses marked with "*Cert B*"

Course Descriptions

₮ ACC 100   **Business Accounting**   3 SCH

Business Accounting includes the theory and practice associated with double entry accounting. Special emphasis is placed on the preparation of the documents necessary to complete the accounting cycle.
Topics include: transactions, journals, financial statements, schedules, adjustments/closing entries, accounting cycle, cash control, bank reconciliation, and payroll.

Prerequisite(s): None

₮ ACC 120   **Financial Accounting**   ₸ SWT ACC1010   3 SCH

Emphasis is on working with financial reporting and analysis, accounting information systems, internal control, depreciation, inventories, current and long-term assets, current and long-term liabilities, and equity for a merchandising business. Commercial and specialized accounting software is used to solve most problems.

Prerequisite(s): ACC 100 Business Accounting or successful completion of a basic accounting course at the high school or college level with a grade of C or better.

₮ ACC 125   **Computerized Accounting**   3 SCH

This course covers small business accounting using QuickBooks software. Topics include printing reports, creating a chart of accounts, recording customer and vendor transactions, processing payrolls, creating new companies, working with budgets, exporting to other software, and using the audit trail.

Prerequisite(s): ACC 100 or higher with a grade of C or higher.

₮ ACC 130   **Payroll Accounting**   3 SCH

Development of skills in preparing time cards, payroll registers, individual employee earnings records, payroll checks, governmental reports, and journal entries both manually and electronically. Included are the study of government regulations that affect payroll and controls needed in a payroll system.

Prerequisite(s): ACC 100 or higher with a grade of C or higher.

₮ ACC 140   **Managerial Accounting**   ₸ SWT ACC2010   3 SCH

Emphasis on accounting for corporations, cash flow and financial statement analysis; departmental and manufacturing accounting; and spreadsheet and commercial accounting software are used to solve problems.

Prerequisite(s): ACC100 Business Accounting or successful completion of a basic accounting course at the high school or college level with a grade of C or higher.

₮ ACC 270   **Tax Accounting**   3 SCH

This course is a study and preparation of income tax returns and a study of tax regulations and forms.

Prerequisite(s): None

ALH 005   **Heart Saver First Aid/CPR/AED**

American Heart Association Heartsaver First Aid CPR AED is geared towards anyone with little or no medical training who needs a course completion card for their job, regulatory (e.g., OSHA), or other requirements or anyone who wants to be prepared for an emergency in any setting. Upon successful completion of the course, students receive a course completion card, valid for two years.

Prerequisite(s): None

₸   This course is approved by the Kansas Board of Regents for System Wide Transfer (SWT) among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the [institution name] Registrar to learn more.

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Course Descriptions

ALH 006	**Basic Life Support CPR**	

The course trains participants to promptly recognize several life-threatening emergencies, give high-quality chest compressions, deliver appropriate ventilations and provide early use of an AED as approved with the American Heart Association. BLS Provider Course Completion Certification Card valid for two years earned upon successful completion.

Prerequisite(s): None

ALH 051	**Certified Nurse Aide Update**	

Designed for CNAs who have held the Kansas CNA but are now inactive (lapsed) and want to reactivate their CNA status. The Update is scheduled by appointment and may include assessment of written and oral knowledge as well as discussion and demonstration of CNA skills. The instructor notifies KDHE of successful completion; the certification is re-activated.

Prerequisite(s): Kansas CNA license, inactive status.

ALH 060	**Certified Medication Aide**	3 SCH

The course is designed around the Kansas State Medication Aide Curriculum, which trains the student to administer medications safely & effectively within the long-term care environment. Students must be 18 years or older to enroll in this course. Following successful completion of this course, the student will be eligible to take the Kansas Certified Medication Aide test, which is required for work as a Certified Medication Aide.

Prerequisite(s): ALH 100 or equivalent, 18 years of age and be current on the Kansas CNA Registry

ALH 061	**CMA Update**	

This course follows guidelines specified by the Kansas Department of Health and Environment (KDHE) for required continuing education and recertification for certified medication aides.

Prerequisite(s): CMA credential

⟊ **ALH 100**	**Certified Nurse Assistant**	5 SCH

The course is designed to provide the student with the knowledge and skills necessary to perform basic health care services in the role of nurse assistant under the supervision of a Registered Nurse or a Licensed Practical Nurse. This course follows the curriculum requirements of the Kansas Department for Aging and Disability Services (KDADS). Upon satisfactory completion of the course, the student is eligible to take the Kansas CNA certification examination. Persons planning entry to a variety of health care careers find this course valuable for developing basic nursing care skills.

Prerequisite(s): CASAS reading test (administered at Manhattan Tech), or hold college degree, or have completed college level English composition course with a grade of C or higher.

⟊ **ALH 101**	**Phlebotomy**	3 SCH

This course will enable the student to correctly and safely perform phlebotomy.

Prerequisite(s): None

⟊ **ALH 1202**	**Phlebotomy Clinical**	2 SCH

This internship allows students to gain real job experience as a phlebotomist and complete requirements for the American Society of Clinical Pathology Certification. The student will be placed at a regional hospital or clinic which agrees to provide supervisor and experience opportunities.

Prerequisite(s): ALH 101

⟊ This course is approved by the Kansas Board of Regents for System Wide Transfer (SWT) among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the [institution name] Registrar to learn more.

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Course Descriptions

AMT 100	OSHA 10	1 SCH

This course provides training for entry-level workers on the recognition, avoidance, abatement, and prevention of safety and health hazards in workplaces, as well as information regarding workers' rights and employer responsibilities. The course is relevant to the automotive industry, including industry specific workplace hazards like automotive fluids and welding hazards.

Prerequisite(s): None

⊤ AMT 109	Intro to Automotive Technology	2 SCH

This course is an introduction to automotive technology as it relates to safety, tools, and history. Topics covered include safety and pollution training, proper tool usage, lift safety, chemical safety, decoding VIN numbers, brief history of the automobile, and using service information.

Prerequisite(s): None

⊤ AMT 111	Electrical 1	3 SCH

This course is an introduction to automotive technology as it relates to safety, tools, and history. Topics covered include safety and pollution training, proper tool usage, lift safety, chemical safety, decoding VIN numbers, brief history of the automobile, and using service information.

Prerequisite(s): AMT 109 with a grade of "C" or higher

⊤ AMT 116	Electrical 2	2 SCH

This advanced course builds on the material learned in AMT 111 Electrical Systems I. Subjects include charging and systems lighting, along with testing, diagnosis and unit repair for each circuit.

Prerequisite(s): AMT111 with a grade of C or better

⊤ AMT 121	Engine Performance 1	3 SCH

This is an introductory course to three areas of engine performance: Ignition, Fuel, and Emission Control systems. An introduction to computer control and electronics as related to ignition, fuel and emission control systems is also covered.

Prerequisite(s): AMT116 with a grade of C or higher

⊤ AMT 125	Engine Performance 2	4 SCH

This course builds on the material learned in AMT121 Engine Performance I. The areas of automotive electronics including microprocessors, sensors and actuators as related to ignition, fuel and emission control systems are studied. The operation and diagnosis/testing of these systems are also covered.

Prerequisite(s): AMT121 with a grade of C or higher, or permission of instructor

⊤ AMT 149	Suspension & Steering 1	3 SCH

Areas taught are automotive/light truck steering and suspension systems theory, design, maintenance and service/repair. Subjects covered are straight axles, short/long arm independent suspension, and McPherson struts.

Prerequisite(s): AMT111 with a grade of C or higher, or permission of instructor

⊤ AMT 152	Suspension & Steering 2	2 SCH

This course builds upon the material learned in AMT 149 Steering & Suspension I. Areas taught are steering and suspension geometry, diagnosis of tire wear, wheel alignment, and tire replacement/ repair/balancing.

Prerequisite(s): AMT149 with a grade of C or higher, or permission of instructor

⊤ This course is approved by the Kansas Board of Regents for System Wide Transfer (SWT) among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the [institution name] Registrar to learn more.

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Course Descriptions

⊤ AMT 170   Brakes 1   3 SCH

This course is a thorough and detailed study of brake system theory and functional operation and principles of hydraulic systems as it applies to braking system 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 drum.

Prerequisite(s): AMT111 with a grade of C or higher, or permission of instructor

⊤ AMT 171   Brakes 2   2 SCH

This course builds upon the material learned in AMT170 Brakes I. Subject areas taught include electronic controls – antilock brake systems, traction and stability control, and hybrid braking systems

Prerequisite(s): AMT170 with a grade of C or higher, or permission of instructor

⊤ AMT 180   Electrical 3   3 SCH

This course builds on the material learned in AMT 116 Electrical Systems II. Subjects include instrumentation, accessory, and restraint systems. Testing, diagnosis and unit repair are taught for each subject area.

Prerequisite(s): AMT116 with a grade of C or higher, or permission of instructor

⊤ AMT 200   Automatic Transmissions & Transaxles 1   3 SCH

The course introduces the basic concepts of automotive transmission/transaxle theory, design, and service. The course proceeds from the simple to the more complex units. Areas included are power flow, hydraulic operation, electronic control, diagnosis, and service.

Prerequisite(s): AMT180 with a grade of C or higher, or permission of instructor

⊤ AMT 201   Automatic Transmissions & Transaxles 2   3 SCH

This course builds upon the material learned in AMT 200 Automatic Transmissions and Transaxles I. Areas studied include automotive transmission/transaxle diagnosis, repair and overhaul.

Prerequisite(s): AMT200 with a grade of C or higher, or permission of instructor

⊤ AMT 205   Manual Transmissions & Transaxles   4 SCH

Addressed are areas of modern automotive manual drive-train and axle theory, design, maintenance, service and repair. The course will include flywheel and clutch design, manual transmissions, transfer cases, driveshafts and universal joints, constant velocity joints, differentials (conventional and limited-slip) and drive axles.

Prerequisite(s): AMT180 with a grade of C or higher, or permission of instructor

⊤ AMT 221   Engine Repair 1   2 SCH

This class consists of the study of the basic theory, design and service of automotive/light truck engines. The class covers engine removal/replacement and in-vehicle repairs.

Prerequisite(s): AMT125 and AMT180 with a grade of C or higher, or permission of instructor

⊤ AMT 250   Engine Repair 2   3 SCH

This course builds upon material learned in AMT 221 Engine Repair I. Subjects taught are diagnosis, inspection, measurement and repair of automotive/light truck engines.

Prerequisite(s): AMT221 with a grade of C or higher, or permission of instructor

⊤ This course is approved by the Kansas Board of Regents for System Wide Transfer (SWT) among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the [institution name] Registrar to learn more.

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Course Descriptions

Ŧ AMT 265	Engine Performance 3	3 SCH

This course builds on the material learned in AMT125 Engine Performance II. The course begins with a review of ignition, fuel and emission control systems. Diagnostic concepts as applied to Asian and advanced General Motors, Ford and Chrysler systems are studied. The course ends with a section on alternative power sources.

Prerequisite(s): AMT125 with a grade of C or higher, or permission of instructor

Ŧ AMT 270	Electrical 4	2 SCH

This advanced course builds on the material learned in AMT 111, 116, and 180. Areas of study are body control modules, antitheft/security systems and automotive networking/multiplexing systems. An introduction to hybrid vehicles is also included in the course.

Prerequisite(s): AMT180 with a grade of C or higher, or permission of instructor

Ŧ AMT 275	Heating & Air Conditioning	4 SCH

Areas studied are the theory, design and service/repair of automotive climate control systems. Safety practices and troubleshooting of heating, ventilation, and air conditioning (HVAC) systems used on cars and light trucks are taught.

Prerequisite(s): Complete AMT 125 and AMT 180 with a grade of "C" or better.

Ŧ BIO 230	Biohazardous Risk Reduction	2 SCH

Theory and practice of Good Laboratory Practices (GLP), Good Manufacturing Practices (GMP) in the context of biosafety ideally practiced in all containment laboratories. The information presented is consistent with Center for Disease Control (CDC) and the National Institute of Health (NIH) guidelines.

Prerequisite(s): Permission of the Director of Bioscience

Ŧ BIO 255	Biotechnology Techniques	5 SCH

The intent of this course is for the development of laboratory skills useful in a biological or chemical laboratory. Strong emphasis is placed on developing competency in good manufacturing practices, good documentation practices, lab safety, solution preparation, equipment operation and general maintenance, and following standard operating procedures.

Prerequisite(s):): Admission to the Biotechnology Program or with the permission of the instructor.

Ŧ BIO 265	Molecular and Cellular Techniques	5 SCH

This course will enable students to develop skills necessary to work with nucleic acids and cells in a biotechnology laboratory. Specific methods covered include DNA isolation and purification, plasmid purification, PCR, electrophoresis, restriction enzyme analysis, cloning and transformation of cells, sequencing, bioinformatics, gene expression and microarrays, and cell culture techniques.

Prerequisite(s):): Admission to the Biotechnology Program or with the permission of the instructor.

Ŧ BIO 285	Protein Techniques	5 SCH

This course will enable students to develop skills necessary to work with prokaryotic or eukaryotic cells in procedures used to grow a biomass in order to produce, purify and analyze proteins. Topics include culture growth, induction, and lysis; protein expression and purification methods; enzymatic and antibody protein assays; protein electrophoresis and western blots. Students will also produce a project report and practice clean room techniques.

Prerequisite(s): Admission to the Biotechnology Program or with the permission of the instructor.

Ŧ   This course is approved by the Kansas Board of Regents for System Wide Transfer (SWT) among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the [institution name] Registrar to learn more.

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Course Descriptions

℻ BIO 292	Biotechnology Shadowing		1 SCH

This shadowing experience allows students exposure in real biological and chemical laboratories. They will also develop skills relevant to gaining employment in these industries.

Prerequisite(s): Admission to the Biotechnology Program or with the permission of the instructor.

BSC 110	Biology	⮂ SWT BIO1010	5 SCH

This course will cover the most basic elements of biology, exposing students to a diverse set of issues which will prepare them for future biology coursework. The student will apply the scientific process to problem solving and deductive reasoning to analyze and interpret observations.

BSC110A and BSC110B are equivalent to SWT BIO1010

Prerequisite(s): None

BSC 125	Anatomy and Physiology	⮂ SWT BIO2020	5 SCH

This course will enable the student to develop an understanding of the principles in structure and function of the human body systems. This course is an intermediate study designed primarily for pre-professional students in health-related fields. The student will participate in three hours of lecture and four hours of laboratory per week.

BSC125A and BSC125B are equivalent to SWT BIO2020

Prerequisite(s): BSC 110 with a "C" or higher or High School Biology or Anatomy and Physiology within five years with a "C" or higher or permission of instructor.

BSC 205	Microbiology	⮂ SWT BIO2040	5 SCH

This course will enable the student to identify disease causing microorganisms or agents and their role in the disease process, including principles of microbial cell structure, genetics, metabolism, immunity, and control. The student will also be able to demonstrate proficiency in standard laboratory techniques used in inoculation, isolation, incubation, inspection, and identification of bacteria. These techniques also include the examination of fungi, protists, and parasitic worms. In addition, the course will enable the student to demonstrate mechanisms in the prevention and treatment of infectious disease. Three hours of lecture/discussion and four hours of laboratory per week.

Prerequisite(s): BSC 110 with a "C" or higher or permission of the instructor.

℻ BTR 102	OSHA 10 Safety		1 SCH

This course covers the tools and materials required for Construction Technology. Students will be introduced to wood and lumber, engineered lumber products, fasteners, hand tools, portable power tools and, stationary power tools. Students will be instructed of the nature, characteristics, and application of the materials used in the construction industry. The course also identifies the importance of accurately reading blueprints and integrates current building codes and zoning ordinances in building construction. Students are instructed in building layout and use of a variety of measuring, leveling, and layout tools.

Prerequisite(s): None

℻ BTR 104	OSHA 30 Construction Industry Certification		2 SCH

The OSHA 30 training program is intended training for supervisors and employees alike. The program helps the trainees to be more knowledgeable about workplace hazards, their rights and contribution to the workforce ensuring a secure work site.

Prerequisite(s): None

⮂ This course is approved by the Kansas Board of Regents for System Wide Transfer (SWT) among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the [institution name] Registrar to learn more.

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Course Descriptions

₮ BTR 106	Introductory Craft Skills	3 SCH

This course will build foundational skills in the construction industry. Students will complete nine modules including modules in the NCCER Core/entry-level subject matter of the industry as well as an introduction to construction drawings.

Prerequisite(s): None

₮ BTR 116	Carpentry Basics	4 SCH

This course is designed to provide the student with a fundamental knowledge of NCCER Carpentry Level I, the basic steps involved in all construction projects. While each carpentry task is somewhat different, most involve the same basic steps: working from blueprints, laying out the structure, assembling the structure, and checking the work afterward.

Prerequisite(s): BTR 102 or BTR 104 and BTR 106 with a "C" or better

₮ BTR 121	Floors, Walls & Ceiling Framing	4 SCH

This course will cover framing basics as well as the procedures for laying out and constructing a wood floor using common lumber as well as engineered building materials. The course will also describe the procedures for laying out and framing walls and ceilings including roughing-in door and window openings, construction corners and partition T's, bracing walls and ceilings, and applying sheathing.

Prerequisite(s): BTR 102 or BTR 104 and BTR 106 with a "C" or better

₮ BTR 131	Roof Framing	3 SCH

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

Prerequisite(s): BTR 102 or BTR 104 and BTR 106 with a "C" or better

₮ BTR 134	Workplace Skills	2 SCH

This course is designed to provide the student with techniques and procedures for employment. It is designed with two modules, with written and performance testing of each. Close attention is given to resume building and interview skills.

Prerequisite(s): None

₮ BTR 136	Windows, Doors & Stairs	3 SCH

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

Prerequisite(s): BTR 102 or BTR 104 and BTR 106 with a "C" or better

₮ BTR 143	Concrete 1	3 SCH

This course is an introduction to concrete form, placement and finishing.

Prerequisite(s): BTR 102 or 104, 106, 116, 121, 131 and 136 with a grade of C or higher

₮ BTR 155	Drywall, Installation & Finishing	3 SCH

This course presents instruction, application, and practice in drywall, installation, and finishing for residential and commercial construction.

Prerequisite(s): BTR 102 or 104, 106, 116, 121, 131 and 136 with a grade of C or higher

₮ This course is approved by the Kansas Board of Regents for System Wide Transfer (SWT) among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the [institution name] Registrar to learn more.

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Course Descriptions

Ŧ BTR 160 **Interior Finish Carpentry** 5 SCH

This course presents instruction, application, and practice in interior finish carpentry including installing jambs, doors, baseboards, suspended ceilings, and molding used for residential and commercial construction.

Prerequisite(s): BTR 102 or 104, 106, 116, 121, 131 and 136 with a grade of C or higher

Ŧ BTR 175 **NCCER Carpentry Level 2** 4 SCH

This course is designed to provide the student with an advanced knowledge of construction techniques and procedures. It is designed with 11 modules, with written and performance testing of each. Closer attention is given to the envelopment of a structure and the installation of interior products.

Prerequisite(s): BTR 102 or 104, 106, 116, 121, 131 and 136 with a grade of C or higher

BUS 111 **Personal Finance** ⟐ SWT BUS1010 3 SCH

This course focuses on basic skills in the management of money with an emphasis on the viewpoint of the individual. Topics covered include budgeting, bank accounts, credit cards, borrowing, real estate and housing, transportation, savings, investments, insurance, taxation, retirement, and estate planning.

Prerequisite(s): None

BUS 120 **Business English** 3 SCH

This course will enable the student to master language principles for the information age. The student will develop language skills while gaining computer experience. The student will gain expertise in basic rules of English grammar, punctuation, capitalization, and number style.

Prerequisite(s): None

BUS 125 **Business Communication** ⟐ SWT BUS2040 3 SCH

This course covers the role of communication in the business environment and focuses on the most effective methods for creating, sending, and receiving messages. This involves the use of effective oral and written communication skills and writing and evaluating business documents using the principles of correct style, organization, and format.

Prerequisite(s): None

Ŧ BUS 126 **Introduction to Business** ⟐ SWT BUS1020 3 SCH

This course is a foundation course on business and its importance in a free market economy and includes a study of types of business ownership and operations. Business terminology is used to understand and interpret business news and information.

Prerequisite(s): None

Ŧ BUS 130 **Records & Information Management** 3 SCH

Instruction in the creation, maintenance, protection, and disposition of records stored in a variety of media forms. Instruction will include the ARMA (Association for Records Managers and Administrators, Inc.) rules for filing, retrieving documents, and specialized functions such as micrographics and optical disc technology. Also included are laws relating to records management.

Prerequisite(s): CIS100 with a grade of C or higher

⟐ This course is approved by the Kansas Board of Regents for System Wide Transfer (SWT) among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the [institution name] Registrar to learn more.

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Course Descriptions

⟊ BUS 159   Principles of Marketing   3 SCH

This course provides an introduction to marketing and examines the importance of marketing within the field of business with an emphasis on consumer buying behavior, marketing research, market segmentation, targeting strategies, positioning products, the marketing mix, the external environment, legal and ethical issues, and the strategic marketing planning process.

Prerequisite(s): None

BUS 185   Business Ethics & Human Relations   3 SCH

This course introduces contemporary and controversial ethical issues facing the business community. Topics include moral reasoning, moral dilemmas, law and morality, equity, justice and fairness, ethical standards, and moral development. The course emphasizes employability skills such as communication, work habits and attitudes, ethics, conflict management, motivation and problem solving, self-concept, perception, self-awareness, personality, values, and communications.

Prerequisite(s): None

BUS 190   Leadership Development   ⟟ SWT BUS2010   3 SCH

Students will analyze personal strengths, styles, and preferences that contribute to leadership as well as explore, apply, and reflect on the basic concepts of leadership. Topics include ethics, diversity, inclusion, and leadership in business and community settings. The course emphasizes employability skills such as communication, work habits and attitudes, ethics, conflict management, motivation and problem solving, self-concept, perception, self-awareness, personality, values, and communication.

Prerequisite(s): None

⟊ BUS 199   Business Internship   1-3 SCH

Business Internship will give students an opportunity to work in a business or governmental agency to apply competencies achieved in previous courses to current office conditions. Each student will be evaluated by the instructor and the supervisor in the office.

Prerequisite(s): Completion of 20 program credit hours with 3.0 or higher GPA and permission of advisor

⟊ BUS 210   Workstation Management   3 SCH

This course is a study of computer components, software, and usage. Instruction will include troubleshooting software problems, preparing proposals for system purchases, performing Internet research, and safeguarding integrity of system components.

Prerequisite(s): CIS100 with a grade of C or higher

⟊ BUS 220   Administrative Procedures   3 SCH

Study of current office procedures including the work environment, workplace technologies, written communication, and customer service skills.

Prerequisite(s): CIS100 with a grade of C or higher

⟊ BUS 255   Principles of Management   ⟟ SWT BUS2020   3 SCH

This course teaches the basic components of management: planning, organizing, leading, and controlling. The course will focus on the fundamentals of management as they are practiced today.

Prerequisite(s): None

⟟   This course is approved by the Kansas Board of Regents for System Wide Transfer (SWT) among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the [institution name] Registrar to learn more.

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Course Descriptions

BUS 290	Business Capstone	1 SCH

This course is designed for student reflection of workplace skills relevant to a student's chosen area of study. Student evaluation of the skills used and enhanced through the completion of course projects will be presented through the development of a professional portfolio used for their personal marketing. The portfolio is comprised of a letter of introduction, resume, and samples of student work. Course topics also include work ethic, attitude, and communication skills. These topics are presented through in –class exercises, guest speakers, and business tours. End-of-program certification is earned through a third-party certification program: Office Proficiency Assessment Certification (OPAC).

Prerequisite(s): EMP 1901, or concurrent

CC 110	Introduction to Computing	3 SCH

An overview of the history of computers and programming. Famous historical figures and their impact in modern computing. Introduction to major topics in computer science such as artificial intelligence, high performance computing, cryptography, big data, cybersecurity, robotics, and more. Brief experience with computer programming concepts.

Prerequisite(s): None

CC 210	Fundamental Computer Programming Concepts	4 SCH

Basic concepts in developing computer programs: program structure and syntax, primitive data types, variables, control flow, iteration, simple algorithms, debugging, and good software development practices. Introduction to object-oriented programming.

Prerequisite(s): None

⅁ CET 101	OSHA 30 General Industry (CET)	2 SCH

The OSHA 30 training program is intended training for supervisors and employees alike. The program increases trainee knowledge about workplace hazards, their rights as employees and their contribution to the workforce. This course will offer specific application of OSHA 30 to critical environments.

Prerequisite(s): None

⅁ CET 111	AC/DC Circuits I	4 SCH

This course is an introduction to basic concepts of electricity: atomic structure, electrical safety, AC and DC current, Ohm's and Kirchoff's laws, power, conductivity, resistance, magnetism and electromagnetism. Students learn to interpret electrical circuit diagrams and properly and safely use electrical instruments and tools.

Prerequisite(s): None

⅁ CET 121	Building Systems & CET: Electrical Systems & Lighting	2 SCH

This course builds upon knowledge of electrical fundamentals and is designed to introduce the student to operation and automation components of electrical and lighting systems in industrial and critical environments. Schematics and blueprints will be used to encourage students to think from a systems perspective.

Prerequisite(s): None

⅁ CET 122	Building Systems & CET: HVAC	2 SCH

This course is an introduction to basic concepts of electricity: atomic structure, electrical safety, AC and DC current, Ohm's and Kirchoff's laws, power, conductivity, resistance, magnetism and electromagnetism. Students learn to interpret electrical circuit diagrams and properly and safely use electrical instruments and tools.

Prerequisite(s): None

⅁   This course is approved by the Kansas Board of Regents for System Wide Transfer (SWT) among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the [institution name] Registrar to learn more.

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Course Descriptions

⊤ CET 123	Building Systems & Critical Environments: Security	1 SCH

This course introduces security and access issues of industrial and critical environments along with currently used security systems. Students will apply problem solving and deductive reasoning to analyze and interpret these unique needs and their solutions.

Prerequisite(s): None

⊤ CET 124	Plumbing and Waste Neutralization	2 SCH

This course provides instruction on the basic components and sequence of operations of plumbing systems used to treat waste generated in industrial or critical environments.

Prerequisite(s): None

⊤ CET 165	Modern Information Technology Networks	3 SCH

CompTIA Network+ introduces the configuration, management, and troubleshooting of common wired and wireless network devices. Topics include critical security concepts and tips for working with security practitioners, cloud computing best practices and service models, hardware and virtualization techniques and concepts, and skills to keep a network working and resilient.

Prerequisite(s): None

⊤ CET 211	AC/DC Circuits II	3 SCH

This course builds upon the introduction to basic concepts of electricity presented in CET 111. Topics covered include power supplies, reactive electrical components, power distribution, circuit protection, electric motor theory, electric generator theory, types of electric motors, motor starters, switching devices, electrical symbols, pictorial diagrams, schematics, sequences of operation, and basic electrical troubleshooting.

Prerequisite(s): CET 101 and CET 111 or HVA 1104

⊤ CET 221	Basic Controls	3 SCH

This course is an introduction to control system devices and control concepts that are commonly used to auto-mate building systems and equipment. Topics include controllers, sensors, actuators, controlled devices, power supply devices, transducers, relays & contactors, motor controls, enclosures, and power monitoring devices. The purpose of this course is to prepare students to work with control devices and wiring used in building automation systems of modern buildings and critical environments.

Prerequisite(s): CET 101, CET 111 or HVA 1104

⊤ CET 222	Building Automation System Controls and Programming	3 SCH

This course builds on electrical and basic control concepts taught in CET 111 and introduces students to controllers that are commonly used in building systems. Students will learn how these controllers communicate with equipment and other controllers, and they will learn how to interpret and write basic programming code in three formats: a graphical interface for block programming, line code, and ladder logic code.

Prerequisite(s): CET 101 and CET 111 or HVA 1104

⊤ CET 223	Applied Building System Controls	5 SCH

This course builds on topics introduced in CET electrical, controls and programming courses. It examines sequences of operations and related programming for major equipment and devices used in building systems. Students will interact with a commercial air handling unit and air distribution system via application and building automation controllers, learning to adjust setpoints and troubleshoot problems.

Prerequisite(s): CET 101, CET 111, CET 122, CET 221, and CET 222

⊤ This course is approved by the Kansas Board of Regents for System Wide Transfer (SWT) among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the [institution name] Registrar to learn more.

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Course Descriptions

⌶ CET 231   **Building Automation Networking and BACnet**   2 SCH

This course builds on CET 131 and introduces students to the features and benefits of open protocols that are commonly used in building automation systems, including critical environments. Special emphasis will be given to the BACnet protocol, which is commonly used to integrate control devices into a common building automation networks. Students will learn about the BACnet Standard Object model, token passing and internetworking, alarming, scheduling and trending.

Prerequisite(s): CRT 165

⌶ CET 241   **Airflow in Commercial and Critical Environments**   3 SCH

This course teaches fundamental concepts regarding airflow, including testing and balancing. It will also explore the effects of fume hoods and biosafety cabinets on airflow in critical environments.

Prerequisite(s): CET 101, CET 111 or HVA 1104, CET 122 or HVA 1044, and CET 221

⌶ CET 299   **CET Capstone Project**   3 SCH

This capstone course is an integrated learning opportunity for students to apply the knowledge and skills gained through pre-requisite CET courses to a real-world problem that is related to building automation of critical environments.

Prerequisite(s): CET 101, BIO 230, CET 111 or HVA 1104, CET 122 or HVA 1044, CRT 165, CET 211, CET 221, CET 222, CET 223, and CET 231.

CHM 105   **Introduction to Chemistry**   ⊤▸ SWT CHM1030   5 SCH

This course will enable students to understand the scientific method, improve knowledge of basic math skills, work with scientific materials, and apply scientific reasoning to real world problems. Application will be made by relating structure and behavior of matter to its function in health and life.

Prerequisite(s): High school Algebra with "C" or higher

CHM 110   **Chemistry I**   ⊤▸ SWT CHM1010   5 SCH

This course will enable students to understand the scientific method, improve knowledge of basic math skills, work with scientific materials and apply scientific reasoning to real world problems. Application will be made by relating structure and behavior of matter to its function in health and life.

CHM110A and CHM110B are equivalent to SWT CHM1010

Prerequisite(s): Secondary or Post-Secondary General Chemistry or Physical Science and Algebra within five years with a grade of C or higher

CHM 230   **Chemistry II**   ⊤▸ SWT CHM1020   5 SCH

This course will enable students to understand the scientific method, improve knowledge of basic math skills, work with scientific materials and apply scientific reasoning to real world problems. Application will be made by relating structure and behavior of matter to its function in health and life. Topics covered will include colligative properties, chemical kinetics, equilibrium, thermodynamics, electrochemistry, coordination chemistry, organic chemistry, biochemistry, and nuclear and radiochemistry.

Prerequisite(s): CHM 110 Chemistry I

CIS 100   **Software Applications**   ⊤▸ SWT CSC1010   3 SCH

This course will enable students to work with application software in a career setting or for personal use. Using a project-based approach, students develop an introductory-level competency in word processing, spreadsheet, database, and presentation software. Computer concepts are covered as well.

Prerequisite(s): None

⊤▸ This course is approved by the Kansas Board of Regents for System Wide Transfer (SWT) among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the [institution name] Registrar to learn more.

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Course Descriptions

CIS 116	Spreadsheet Management	2 SCH

This course covers intermediate-level concepts of spreadsheet software. Using typical business scenarios, the student will perform "what-if" analyses, manage data in worksheets with tables and database functions, and use multiple worksheets to build consolidated statements. The applications and principles learned in this course are relevant to any career field.

Prerequisite(s): CIS100 Software Applications with a grade of C or higher

CIS 121	Word Processing	2 SCH

This course covers intermediate-level concepts of word processing software. Using typical business scenarios, the student will create documents containing graphical elements such as tables, columns, and SmartArt. Automated features such as merge applications and use of building blocks will be used. The applications and principles learned in this course are relevant to any career field.

Prerequisite(s): CIS100 Software Applications with a grade of C or higher

ⅎ CIS 126	Database Management	2 SCH

Database Management includes designing and creating a database; changing and deleting records; creating forms and reports, including custom forms and reports; changing structures; building relationships and lookup fields; using query wizards and advanced query techniques; and macros.

Prerequisite(s): CIS100 Software Applications with a grade of C or higher

ⅎ CIS 150	Web Page Applications	3 SCH

Web Page Applications includes planning and designing a web page, using both HTML and specialized software, working with templates, editing features, creating forms, using frames, and providing knowledge in the maintenance of web sites.

Prerequisite(s): None

CIS 155	Integrated Applications	2 SCH

Integrated Applications takes students' baseline software skills to increased proficiency. Word processing, spreadsheet, database, presentation, and desktop publishing software will be integrated to complete real-world projects. Cloud computing will be utilized.

Prerequisite(s): CIS 116 Spreadsheet Management, CIS 121 Word Processing, and CIS 126 Database Management, each with a grade of C or higher

COM 101	Composition Workshop	1 SCH

This class will review writing skills to include punctuation, capitalization, and grammar. It also focuses on preparing students for success in college classes with activities like learning styles, notetaking, time management and more.

Prerequisite(s): Co-requisite: English Composition I (COM 105) or Technical Writing (COM 110) based on placement guidelines or P/I

COM 105	English Composition I	⊺ SWT ENG1010	3 SCH

English Composition I is an introduction to expository writing emphasizing expression of ideas, structure, organization, development, and grammatical correctness. The course offers practice in researching, revising, and editing.

Prerequisite(s): Meet placement guidelines

⊺ This course is approved by the Kansas Board of Regents for System Wide Transfer (SWT) among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the [institution name] Registrar to learn more.

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Course Descriptions

COM 106	English Composition II	⊤▸ SWT ENG1020	3 SCH

This course provides the students opportunities to practice organizing and writing research-based papers highlighting critical thinking. Library and research skills will be emphasized.

Prerequisite(s): COM 105 with a grade of C or higher

COM 110	Technical Writing		3 SCH

This course is an introduction to professional and technical writing used in the workplace. The class offers practice in document design and editing. The types of correspondence include memos, letters, e-mail, reports, and instructional manuals. The course will focus on clarity, conciseness, document design, organization, audience recognition, audience involvement and accuracy. Collaboration and teamwork is stressed. Presentations will be practiced during class.

Prerequisite(s): Meet placement guidelines

COM 115	Public Speaking	⊤▸ SWT COM1010	3 SCH

This course is an elementary course in the study and practice of the basic principles of speech and interpersonal communication with emphasis on critical thinking, the creative and intelligent selection of material, organization and oral presentation.

Prerequisite(s): None

COM 116	Interpersonal Communications	⊤▸ SWT COM1020	3 SCH

Interpersonal Communications is a course that emphasis verbal and non-verbal communication between and among individuals and small groups. Both personal and professional communication will be studied.

Prerequisite(s): Meet placement guidelines

⅌ CRT 100	Principles of Information Assurance		1 SCH

Principles of Information Assurance is designed to teach the principles and practices that all computer users need to keep themselves safe, both at work and at home. By presenting best practices along with a small amount of theory, students are taught both what to do and why to do it. Topics covered include how to secure both clean and corrupted systems, protecting your personal data, securing simple computer networks, and safe Internet usage.

Prerequisite(s): None

⅌ CRT 101	IT Fundamentals		3 SCH

The CompTIA IT Fundamentals course will equip the student with the knowledge and skills required to identify and explain the basics of computing, IT infrastructure, software development and database use. In addition, candidates will demonstrate their knowledge to install software, establish basic network connectivity and identify/prevent basic security risks. Further, this course will assess the candidate's knowledge in the areas of troubleshooting theory and preventative maintenance of devices.

Prerequisite(s): TBD

⅌ CRT 115	INT Essentials		1 SCH

This course will provide students with the necessary foundation of basic knowledge (in number systems, electronics, and computing) to enhance their ability to successfully progress through and complete the INT program.

Prerequisite(s): None

⊤▸ This course is approved by the Kansas Board of Regents for System Wide Transfer (SWT) among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the [institution name] Registrar to learn more.

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Course Descriptions

₸ CRT 119	Windows Administration using PowerShell	2 SCH

This course will enable the student to understand the need for Windows administrators to know and understand PowerShell for managing Windows systems. This includes using PowerShell cmdlets and writing PowerShell scripts.

Prerequisite(s): CRT 148 Microsoft Network Operating System with a grade of C or higher.

₸ CRT 126	Advanced Operating Systems and PC Hardware	3 SCH

This course covers personal computer operating systems and hardware to enforce skills related to the CompTIA A+ certification exam. Operating system topics include installation, management, functionality, security, configuration, and virtualization, which are covered primarily within Microsoft Windows. Hardware topics cover CPUs, memory, motherboards, storage and I/O devices, power supplies, home networking, and computer safety.

Prerequisite(s): None

₸ CRT 144	UNIX Fundamentals	3 SCH

The course is intended for new users of UNIX and teaches students how to use UNIX operating system commands. Students will learn fundamental command-line features of the UNIX environment including file system navigation, file permissions, the text editor, command shells and basic network use. This course utilizes the Linux operating system to teach basic UNIX commands, concepts and structure.

Prerequisite(s): CRT 126 with a grade of C or higher

₸ CRT 148	Microsoft Windows Network Operating Systems	3 SCH

This course is intended as an introduction to the current version of Microsoft's Windows network operating system. Material presented extends from creating a site plan, through installation, configuration, administrative management and finishes with disaster recovery. Installation and management of virtual servers and secure networking are integrated within coursework. Students utilize hands-on activities to reinforce presented concepts.

Prerequisite(s): CRT126 with a grade of C or higher

₸ CRT 151	Infrastructure Virtualization	3 SCH

This hands-on training course explores installation, configuration, and management of virtual servers and desktops. Course content also consists of monitoring, scaling, and protecting virtual computer networks. Students will learn the business and technical perspectives of virtualization. The course primarily uses VMWare vSphere, vCenter, and ESX/ESXi technologies to present the material. Students who complete the course are prepared to sit for the VMWare Certified Professional (VCP) Exam for which this class meets the prerequisite.

Prerequisite(s): CRT 126 with a grade of C or higher

₸ CRT 165	Modern Information Technology Networks	3 SCH

Knowing how to install, configure, and troubleshoot a computer network is a highly marketable and exciting skill. This course first introduces the fundamental building blocks that form a modern network, such as protocols, media, topologies, and hardware. It then provides in depth coverage of the most important concepts in contemporary networking, such as TCP/IP, Ethernet, wireless transmission, virtual networks, security, and troubleshooting. After completing this course and completing the exercises, you will be prepared to select the best network design, hardware, and software for your environment. You will also have the skills to build a basic network as well as the knowledge to maintain, upgrade, troubleshoot, and manage an existing network.

Prerequisite(s): None

⟇ This course is approved by the Kansas Board of Regents for System Wide Transfer (SWT) among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the [institution name] Registrar to learn more.

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Course Descriptions

☨ CRT 170	Introduction to Networks	3 SCH

This course introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of the course, students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes. This is one of four courses required for CNSS 4011 certification (CRT120, CRT125, CRT181).

Prerequisite(s): None

☨ CRT 176	Switching, Routing, and Wireless Essentials	3 SCH

This second of three courses in the Cisco Certified Network Associate (CCNA) curriculum focuses on switching technologies and router operations that support small-to-medium business networks and includes wireless local area networks (WLANs) and security concepts. Students will learn key switching and routing concepts. They will also be able to perform basic network configuration and troubleshooting, identify and mitigate LAN security threats, and configure and secure a basic WLAN.

Prerequisite(s): CRT 170 with a grade of C or higher

☨ CRT 181	Network and Server Management (Capstone I)	3 SCH

This course provides the fundamental knowledge to implement and administer network management services in commercial and enterprise environments. Students learn effective techniques needed to install, manage, monitor, configure and troubleshoot networks. Other topics include: centralized event logging, time synchronization, remote desktop, remote installation, remote management, project management, disaster recovery, computer network policies, fault tolerance, packet analyzers, SNMP, central authentication, enterprise virus protection, encryption, centralized update and service packs, asset management, total cost of ownership, network performance monitoring, fault monitoring, change management, policy development, data assurance, auditing and documentation. This course is one of four courses required for CNSS 4011 certification. (CRT120, CRT125, CRT170).

Prerequisite(s): CRT 126 and CRT 170, each with a grade of C or higher

☨ CRT 190	ITIL Foundations	2 SCH

Information Technology Infrastructure Library, or ITIL, is a process IT staff use to help organizations identify areas for improvement while providing vendor-neutral guidelines on where to make specific changes to reduce costs and increase productivity. This course will assist you in acquiring the essential skills and information necessary to lead and manage an IT business service through every stage of its lifecycle.

Prerequisite(s): A background in IT and a basic knowledge of Service Management concepts

☨ CRT 215	Database Systems	3 SCH

This course introduces students to the concepts necessary for designing, using and implementing database systems and applications. An overview of database management systems architecture, entity-relationship model, relational data model, structural query language (SQL), normalization, indexing, data integrity, referential integrity, constraints and security. Also included are basic file organization and storage management; e-commerce web application development; database systems and the Internet. The student will be able to manage and maintain databases, user accounts, database availability, recovery, and reporting. This course focuses on commercial relational databases and their uses in the computerized business world.

Prerequisite(s): CRT 148 with a grade of C or higher

☨ This course is approved by the Kansas Board of Regents for System Wide Transfer (SWT) among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the [institution name] Registrar to learn more.

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Course Descriptions

₸ CRT 231   Internet of Things Fundamentals and Security   3 SCH

The advent of the Internet of Things (IoT) has created many new opportunities for connecting people, places, and things. It has also brought with it an ever-expanding attack surface for threat actors to exploit. Today's organizations are challenged with securely implementing many new devices into the existing information technology (IT) infrastructure. This course will arm students with crucial knowledge they need to intelligently discuss, evaluate, implement, and secure the IoT environment for a given business context. This course will also serve as an introduction to scripting and automation with the Python programming language.

Prerequisite(s): CRT 100, CRT 126, and CRT 176 all with a grade of C or higher

₸ CRT 275   Enterprise Networking, Security, and Automation   3 SCH

This third course in the Cisco CCNA curriculum describes the architectures and considerations related to designing, securing, operating, and troubleshooting enterprise networks. This course covers wide area network (WAN) technologies and quality of service (QoS) mechanisms used for secure remote access. This course also introduces software-defined networking, virtualization, and automation concepts that support the digitalization of networks. Students gain skills to configure and troubleshoot enterprise networks, and learn to identify and protect against cybersecurity threats. They are introduced to network management tools and learn key concepts of software-defined networking, including controller-based architectures and how application programming interfaces (APIs) enable network automation.

Prerequisite(s): CRT 176 Switching, Routing, and Wireless Essentials with a grade of C or higher

₸ CRT 279   Cybersecurity Operations   3 SCH

Today's organizations are challenged with rapidly detecting cybersecurity breaches and effectively responding to security incidents. Teams of people in Security Operations Centers (SOCs) keep a vigilant eye on security systems, protecting their organizations by detecting and responding to cybersecurity exploits and threats. Cybersecurity Operations prepares students to begin a career working as associate-level cybersecurity analysts within security operations centers. This course aligns with the Cisco Certified CyberOps Associate (CBROPS) certification.

Prerequisite(s): CRT 126 Advanced Operating Systems and PC Hardware, CRT 144 UNIX Fundamentals, CRT 148 Microsoft Network Operating System, CRT 176 Switching, Routing, and Wireless Essentials all with a grade of C or higher and Co-requisite: CRT 288 Fundamentals of Information Systems Security

₸ CRT 281   Cloud Computing Fundamentals   3 SCH

This course will introduce students to fundamental, vendor-independent cloud computing concepts. Students will use the knowledge and skills gained in previous courses to learn how to migrate, manage, troubleshoot, and automate a cloud computing infrastructure. Students will gain practical knowledge through labs performed in Yellow Circle, Amazon Web Services (AWS), and Microsoft Azure. Those seeking to pass CompTIA's Cloud+ certification exam will find the course's content, approach, and numerous projects and study questions especially helpful.

Prerequisite(s): CRT 151 with a grade of "C" or higher

₸ CRT 282   Network Security   3 SCH

This course provides a comprehensive overview of the primary strategies and technologies used to defend a network including the knowledge and skills to design and implement essential technical solutions that provide the foundation level of security for all modern networks. Students will also learn the principles and practices of effective network policy and management practices.

Prerequisite(s): CRT 181, CRT 144, and CRT 148 with a grade of C or higher

₸   This course is approved by the Kansas Board of Regents for System Wide Transfer (SWT) among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the [institution name] Registrar to learn more.

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Course Descriptions

⊤ CRT 288	Fundamentals of Information Systems Security	3 SCH

This course focuses on the implementation of information systems security with emphasis on current threats and vulnerabilities. Students will identify key elements that enable these cyber security threats and apply security controls that can mitigate the risk associated with these threats. Students will protect systems and networks from threats. This course will explore methods, tools, and techniques that intruders use to exploit vulnerabilities in systems. The student will apply the elements of information assurance and computer security from risk assessment to public key encryption. Additionally, awareness training, countermeasures and safeguards and continuity of operations are taught.

Prerequisite(s): CRT 181 Network Server Management with a grade of C or higher

CRT 295	INT Capstone	3 SCH

This capstone course will be a team focused, integrated learning opportunity that will move the student experience from a lab environment to a real world internet live experience. The students, as part of a team, will design, install and maintain an enterprise network. The student will also experience industry culture, standards and practices. The capstone project incorporates skills from all the required courses but involve the actual application of those skills. Project management techniques with an emphasis on the design and management of computer information systems and controlling project risks, budgets, and quality assurance will be included. The project will require student teams to analyze potential design alternatives, interpret results, document best practices, and report their findings. There will be opportunities to explore emerging and converging Information technologies and their implications. A final oral and visual presentation of this project will reflect a degree of skill competency as a communicator.

Prerequisite(s): CRT 144, CRT 148, CRT 151, and CRT 181, all with a grade of C or higher

⊤ DFT 103	Fundamentals of Drafting	3 SCH

Basic concepts and skills of mechanical drawing using conventional, computer-aided drafting, and use and knowledge of tool, supplies, and equipment. Mechanical drafting fundamentals, using conventional drafting, will be presented, along with an explanation of standard drafting practices. Topics covered will include drafting equipment, media, sketching, lettering and lines, geometric construction, multi-views, auxiliary views, sections, pictorials, and dimensioning, Practical and realistic math problems associated with drafting topics will also be covered. **Course only offered at secondary (High School) level.**

Prerequisite(s): Articulated credit from high school, or students with CAD experience by instructor permission, or taken concurrently with first semester coursework.

EMP 1901	Global Employment Standards	1 SCH

This course is a study of professional workplace behavior; development of personal, educational, and professional career goals; and understanding of effective job-seeking skills. Also included is an overview of laws relating to labor relations, contracts, and personnel matters. Students completing a certificate or an AAS degree will complete this course near the end of their program of study.

Prerequisite(s): None

⊤ This course is approved by the Kansas Board of Regents for System Wide Transfer (SWT) among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the [institution name] Registrar to learn more.

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Course Descriptions

⍑ EMS 100 **Emergency Medical Technician** 9 SCH

This program is sponsored by Manhattan Area Technical College and is approved by the Kansas Board of Emergency Medical Services. It is based on current information and techniques considered the responsibility of the EMT, according to the National Highway Traffic and Safety Administration, National Standard Curriculum, as enriched by the Kansas Board of EMS. This course exceeds the state and national requirements. It consists of a minimum of 140 hours of didactic and psychomotor skills in the classroom. This program consists of didactic and psychomotor skills instruction; skills demonstrations; clinical and field experience; orientation to the emergency department and ambulance; and an extrication class. The course will also contain simulated experiences in patient care and handling. This knowledge must be learned and maintained in order to function effectively as an EMT as it is an applied science.

Prerequisite(s): None

⍑ EMS 200 **Advanced Emergency Medical Technician** 9 SCH

This course is sponsored by Manhattan Area Technical College and is approved by the Kansas Board of Emergency Medical Services. It is based on current information and techniques considered the responsibility of the Advanced Emergency Medical Technician (AEMT), according to the National Highway Traffic and Safety Administration, National Standard Curriculum, as enriched by the Kansas Board of EMS. This course exceeds the state and national requirements.

This course consists of a minimum of 160 hours of didactic and psychomotor skills instruction to include skills demonstrations, clinical and field experience, with a minimum of 60 hours on a contracted ambulance service or contrived experiences may be substituted.

The course will also contain simulated experiences in patient care and handling. This knowledge must be learned and maintained in order to function effectively as an AEMT, as it is an applied science.

Prerequisite(s): Kansas Board of Emergency Medical Services EMT Certification

⍑ EPD 101 **OSHA10** 1 SCH

This quality safety training course is intended to inform students about the general hazards of construction work. Completion of the Construction Industry version, which is geared towards new construction projects, major renovation work, and demolition will prepare students for work that will be completed at the job site.

Prerequisite(s): None

⍑ EPD 103 **Basic Electricity** 1 SCH

This course is a self-paced training course with interactive audiovisual content, including animations, and product simulations. These animations and simulations create a user-friendly way to gain knowledge about basic concepts, materials, and terms related to electricity.

Prerequisite(s): None

⍑ EPD 105 **Climbing Skills** 4 SCH

The student must master climbing wood pole structures with the use of a pole safety strap. Upon successful completion of this course, the student will be qualified in two methods of pole top rescue.

Prerequisite(s): CDL Required

⍑ EPD 110 **Pole Framing & Construction Specifications** 4 SCH

Introduction to Rural Electric Association line construction specifications and knowledge of pole framing on the ground and aerial framing. The student will gain a working knowledge of 7200 volt, 14,400 volt and 34,500 volt primary distribution systems. The student will also be introduced to copper and aluminum primary conductors and line staking.

Prerequisite(s): CDL Required

⍑ This course is approved by the Kansas Board of Regents for System Wide Transfer (SWT) among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the [institution name] Registrar to learn more.

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Course Descriptions

₮ **EPD 120**	**Equipment Operation**	3 SCH

Mastery of safe operation of various digger/derrick trucks, bucket/basket aerial platforms and trenchers commonly used in overhead and underground electric distribution work. The student will safely operate and perform routine maintenance and inspection on all units.

Prerequisite(s): CDL Required

₮ **EPD 125**	**Setting & Replacing Poles**	1 SCH

Theory in pole setting and change-out techniques. Emphasis is placed on setting and replacing poles in energized lines with digger/derrick trucks. The student will also gain a working knowledge of the proper use of cover-up material, both hard shell and rubber goods; vehicle grounding practices; manual pole setting; temporary pole supports; and worksite hazard analysis.

Prerequisite(s): CDL Required

₮ **EPD 1376**	**Transformer Theory and Installation**	6 SCH

This course is an introduction to basic electricity, related math, and transformer theory with hands-on experience in the installation and connection of single transformers and various three-phase transformer banks. This course will also provide the student with experience in installation and connection of single phase and three-phase banks. Other topics addressed are transformer over voltage current protection; equipment grounding; cutout and lightning arrestor installation; current transformer applications; use of Voltage Ohm Meter (VOM); and basic troubleshooting techniques are also practiced.

Prerequisite(s): CDL Required

₮ **EPD 140**	**Service Installation & Metering**	4 SCH

Working knowledge of single- and three-phase watt hour meter applications with practical experience in the installation and sizing of service conductors, construction and installation of meter loops and poles, instrument metering, and temporary service installations. Tampering and power theft, grounding and safe work practices are also covered.

Prerequisite(s): Must have passed EPD 199

₮ **EPD 145**	**Conductor Installation & Repair**	4 SCH

Working knowledge of single- and three-phase watt hour meter applications with practical experience in the installation and sizing of service conductors, construction and installation of meter loops and poles, instrument metering, and temporary service installations. Tampering and power theft, grounding and safe work practices are also covered.

Prerequisite(s): EPD 199 with a grade of C or higher

₮ **EPD 150**	**Rubber Gloving and Hot Sticking Methods**	3 SCH

This course introduces students to methods of working on energized distribution lines and equipment with rubber gloves, sleeves, and hot sticks from off the pole and insulated aerial platforms. Students will gain a working knowledge of the application, care and use of hard shell covers, rubber line hoses and blankets, personal protective equipment, hot-line tools, and live-line maintenance. The course also reviews operation of bucket/basket aerial platforms and pole top and bucket rescue techniques.

Prerequisite(s): Completion of EPD 199 with a grade of C or higher

₮ This course is approved by the Kansas Board of Regents for System Wide Transfer (SWT) among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the [institution name] Registrar to learn more.

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Course Descriptions

⟰ EPD 160   Underground Distribution   3 SCH

Working knowledge of Underground Residential Distribution (URD) with practical experience in the direct burial of primary and secondary cables; installation of 200 and 600 amp elbows, splices, lightning arrestors, and overhead terminations; installation of single-phase and three-phase padmount and transclosure transformer installations; methods of shoring and sloping trenches and excavations; troubleshooting of primary and secondary cables; and fault location. The student will also review the operation of trencher digging equipment and safe work practices and procedures, proper grounding techniques of padmount transformers and transclosures.

Prerequisite(s): Completion of EPD 199 with a grade of C or higher

⟰ EPD 170   Fusing & System Coordination   1 SCH

This course is a study of various methods of system coordination, knowledge of oil circuit reclosures, sectionalizing, and the application of fuses where students will learn to install and operate single-phase and three-phase pole mount reclosures, substation fuses and reclosures, and gang operated air-break and load-break switches.

Prerequisite(s): Completion of EPD 199 with a grade of C or higher

⟰ EPD 180   Substations & Voltage Regulation   4 SCH

This course is a study of substations, capacitors, voltage regulators, auto-boosters; practical experience in substation grounding, inspections, substation maintenance; operation and installation of high side fuses, power transformers, substation buswork, and transfer switches; methods of voltage regulation, and Supervisory Control and Data Acquisition (SCADA).

Prerequisite(s): Completion of EPD 199 with a grade of C or higher

⟰ EPD 199   Utility Internship   8 SCH

This course provides practical work experience as an apprentice lineman with an operating utility and is completed between the first and second semesters. The student must spend at least eight clock hours in the computer learning center to develop his/her résumé prior to interviewing for internship placement.

Prerequisite(s): Must have a grade of C or higher in EPD 101, 103, 105, 110, 120, 125, and 1376, and permission of instructor

ESL 101   Beginning ESL Levels 7-8

This course is for students who achieve NRS EFL 7, or 8 on the TABE CLAS-E assessment. This course helps develop basic skills for English language acquisition. This course is a pre-requisite for ESL 201. (NRS EFL – national reporting system; educational functioning level, TABE CLAS-E – test of adult basic education; complete language assessment system-English)

Prerequisite(s): None

ESL 201   Beginning ESL Levels 9-10

This course is for students who achieve NRS EFL 9, or 10 on the TABE CLAS-E assessment. This course helps develop intermediate skills for English language acquisition. This course is a pre-requisite for ESL 301. (NRS EFL – national reporting system; educational functioning level, TABE CLAS-E – test of adult basic education; complete language assessment system-English)

Prerequisite(s): None

⟰ This course is approved by the Kansas Board of Regents for System Wide Transfer (SWT) among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the [institution name] Registrar to learn more.

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Course Descriptions

ESL 301	Advanced ESL Levels 11-12

This course is for students who achieve NRS EFL 11, or 12 on the TABE CLAS-E Assessment. This course helps develop advanced skills for English language acquisition. This course is a pre-requisite for ESL 401. (NRS EFL – National Reporting System; Educational Functioning Level, TABE CLAS-E – Test of Adult Basic Education; Complete Language Assessment System-English)

Prerequisite(s): None

ESL 401	ESL Transitions

This course is for students who achieve higher than NRS EFL 12 on the TABE CLAS-E Assessment. This course helps students with advanced conversational skills for English Language acquisition. (NRS EFL – National Reporting System; Educational Functioning Level, TABE CLAS-E – Test of Adult Basic Education; Complete Language Assessment System-English)

Prerequisite(s): None

GED 101	Adult Basic Education Levels 1-4

This course is for students who achieve NRS EFL 1, 2, 3, or 4 on the TABE assessment; also known as adult basic education. This course prepares students to complete pre-GED coursework in preparation of the GED exams. This course is a pre-requisite for GED 201. (NRS EFL – national reporting system; educational functioning level, TABE – test of adult basic education, GED – general equivalency development/diploma)

Prerequisite(s): None

GED 201	Adult Secondary Education Levels 5-6

This course is for students who achieve NRS EFL 5, or 6 on the TABE Assessment: Also Known as Adult Secondary Education. This course prepares students to complete GED preparation coursework to assist a student achieve a higher score on all four GED Modules. (NRS EFL – National Reporting System; Educational Functioning Level, TABE – Test of Adult Basic Education, GED – General Equivalency Development/Diploma)

Prerequisite(s): None

HIS 105	U.S. History to 1877	⛧ SWT HIS1010	3 SCH

This course will enable the student to gain knowledge of American History from the pre-Columbian era up to the Reconstruction period following the Civil War. Topics will include social, intellectual, political, and economic issues up to 1877.

Prerequisite(s): None

HIS 106	U.S. History since 1877	⛧ SWT HIS1020	3 SCH

This course will enable the student to gain knowledge of American History from the end of the Reconstruction Period to present day. Topics will include social, political, and economic developments of the Reconstruction era, industrialization, immigration, reform movements, World Wars I and II, foreign policy, and social and cultural trends.

Prerequisite(s): None

⛨ HVA 103	Safety Orientation/OSHA10	1 SCH

This quality safety training course is intended to inform students about the general hazards of construction work. Completion of the Construction Industry version, which is geared towards new construction projects, major renovation work, and demolition, will prepare students for work that will be completed at the job site.

Prerequisite(s): None

⛧ This course is approved by the Kansas Board of Regents for System Wide Transfer (SWT) among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the [institution name] Registrar to learn more.

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Course Descriptions

⊤ HVA 1044	HVAC Fundamentals	4 SCH

This course in refrigeration is designed to include how mechanical refrigerators operate, heat and flow, temperature measurement, pressure, and states of matter, as well as the laws of refrigeration. Safety procedures will also be taught.

Prerequisite(s): Co requisite of OSHA 10

⊤ HVA 1104	Electrical Fundamentals	4 SCH

This course is an introduction to generation of electricity, types of electricity, direct and alternating current circuit fundamentals, magnetism, and electrical components.

Prerequisite(s): HVA 103

⊤ HVA 120	Domestic Refrigeration	3 SCH

This course includes terminology associated with domestic refrigeration, identification of types of domestic refrigeration, location of data plates and their purpose. Also covered will be sealed system components, what their function is and how they operate, as well as locating and solving problems in a domestic refrigerating system in a safe manner.

Prerequisite(s): HVA 103 and HVA 1044

⊤ HVA 130	Controls & Motors	3 SCH

This course includes terminology associated with motors. Student will learn the components of a motor. Students will apply the concept of start relays, start capacitors, and run capacitors. Students will be able to identify different types of motors and wire them.

Prerequisite(s): HVA 1044

⊤ HVA 140	Heating System Fundamentals	3 SCH

This course covers terminology associated with heating and humidification. Heating equipment covered will include, gas heating systems, hydronic heating, electric heating and oil heating. Also covered in this course will be humidification.

Prerequisite(s): HVA 103 and HVA 1104

⊤ HVA 150	Cooling	3 SCH

This course in cooling is designed to focus on operation, installation, and service procedures to complete air conditioning and heat pump systems. Safety procedures will also be taught.

Prerequisite(s): HVA 130

⊤ HVA 151	Advanced Refrigeration	3 SCH

Students will gain the knowledge of special refrigeration application systems, commercial ice machines, and the ability to troubleshoot and understand the sequence of operation and commercial systems.

Prerequisite(s): HVA1044, HVA1104, and HVA120 with a grade of C or higher or with instructor approval

HVA 161	EPA 608	1 SCH

Students will gain the knowledge of refrigerant and oil chemistry and management, understand the recovery, recycling, reclaiming, and retrofitting methods that are required by EPA. Students will become 608 Universal certified in handling and purchasing refrigerants.

Prerequisite(s): HVA1044 and HVA120 with a grade of C or higher or with instructor approval

⊤ This course is approved by the Kansas Board of Regents for System Wide Transfer (SWT) among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the [institution name] Registrar to learn more.

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Course Descriptions

⊤ HVA 170	Design & Blueprint Reading	3 SCH

This course in design and blueprint reading will enable students to learn to read plans and blueprints for new construction and be able to calculate loads for heating and cooling systems. Safety procedures will also be taught.

Prerequisite(s): HVA 103, HVA 1044, and HVA 140

⊤ HVA 181	Commercial Refrigeration	4 SCH

This course is the study of condensing units, condensers, refrigerant controls, evaporators, and other components used in commercial refrigeration systems as well as diagnosing, testing, servicing and repair of commercial equipment. Safety for the technician, customer, and equipment are also covered.

Prerequisite(s): HVA1044 and HVA120 with a grade of C or higher or with instructor approval

HVA 185	Workplace Skills	1 SCH

Students will develop good customer relations including problem solving, time management, and work ethic. They will learn to complete retail sales orders and will calculate sales tax and mark ups.

Prerequisite(s): None

⊤ HVA 199	Occupational Work Experience	2 SCH

Supervised work experience in the public and private sector.

Prerequisite(s): HVA 181; faculty recommendation

⊤ IET 100	OSHA 30 General Industry	2 SCH

The OSHA 30 training program is intended training for supervisors and employees alike. The program increases trainee knowledge about workplace hazards, their rights as employees and their contribution to the workforce.

Prerequisite(s): None

⊤ IET 101	Fundamentals of Electricity AC/DC	3 SCH

Decrease production downtime, improve efficiency and increase output – All hinges on understand electricity and how to work with it safely. These courses have been specifically developed to give students the knowledge and skills required to enable them to work safely and effectively with electricity. The lab components of the training offer the student the opportunity to build, test and troubleshoot AC/DC circuits and examine the operating voltages and currents related to proper circuit operation. Technicians will use various instruments to make circuit measurements and calculations.

Prerequisite(s): None

⊤ IET 102	Fundamentals of Fluid Power - Pneumatics	3 SCH

This pneumatic training course covers the use of compressed air for pneumatic control and as a signaling medium. A complete overview is given, covering compressors, storage, dryers and distribution as well as the design, construction and operation of a range of actuators, valves and ancillary equipment. The relevant ISO symbols are introduced and included in the circuit diagrams. This course ensures a sound competence the safe operation and maintenance of one of the most common automation elements in industry.

Prerequisite(s): None

⊤ IET 103	Advanced Sensor Technology	3 SCH

This hands-on course will introduce the participant to various sensors common in the industrial automation field. Examples are used to demonstrate the general operational principles of different sensors. Special attention is paid to the selection of the right sensor, its connection, the correct setting and functional checking

Prerequisite(s): IET 100 or OSHA 30 and IET 102 with a grade of "C"

⊤ This course is approved by the Kansas Board of Regents for System Wide Transfer (SWT) among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the [institution name] Registrar to learn more.

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Course Descriptions

⊤ IET 1044 — Mechatronics — 4 SCH

As an Introduction to Mechatronics, this course aims to relay foundational information and develop hands-on skills in the areas of Mechanical, Electrical, and Control Technology. Students will develop competencies to operate and maintain pneumatics, electricity, sensors, actuators, and controls. Utilizing real-world automation devices students will also gain additional skills in STEM (Science, Technology, Engineering, and Math). These skills that are at the core of automation, production, and manufacturing are in high demand. At the conclusion of the course, students will be prepared to enter into high levels of Mechatronics and Industry 4.0 training, as well as filling much needed career positions such as certified production technicians and/or operators.

Prerequisite(s): None

⊤ IET 105 — Mechanical Drive I — 3 SCH

The driving force behind most industrial applications is Mechanical Systems. Gears, drives, bearings, pulleys, and more are found in nearly everything that moves. The Mechanical Systems course covers the installation, use, maintenance, and troubleshooting of mechanical drive components and systems. The curriculum is divided into various topics which deal with the components encountered in industry. The learning is based on practical, hands-on tasks to build knowledge in operating and maintaining these vital systems.

Prerequisite(s): IET 100 or OHSA 30 with a grade of "C" or higher.

⊤ IET 121 — Basic Controls — 5 SCH

Working with a Programmable Logic Controller (PLC) efficiently requires a strong familiarity with the specifics of the programming environment and languages. Students will work with high-end products from Rockwell Automation/Allen Bradley. This training program allows students to acquire hands-on experience with industrial control equipment. Realistic examples are used to motivate students to gain the skills needed to work with PLC controlled systems.

This course will introduce the participant to various sensors common in the industrial automation field. Hands-on experience plays a central role in teaching the fundamentals of sensors. Examples are used to demonstrate the general operational principles of different sensors. Special attention is paid to the selection of the right sensor, its connection, correct settings, and functional checking.

Students will expand their knowledge into programming PLCs, incorporate Human Machine Interface (HMI) programming and modifying programs to include changes in the applications.

Prerequisite(s): IET 101 with a grade of "C" or higher.

⊤ IET 210 — Mechanical Drive II — 3 SCH

The driving force behind most industrial applications is Mechanical Systems. Gears, drives, bearings, pulleys, and more are found in nearly everything that moves. The Mechanical Systems course covers the installation, use, maintenance, and troubleshooting of mechanical drive components and systems. The curriculum is divided into various topics which deal with the components encountered in industry. The learning is based on practical, hands-on tasks to build knowledge in operating and maintaining these vital systems.

Prerequisite(s): IET 105 Mechanical Drive I with a grade of "C" or higher.

⊤ IET 220 — Industrial Motor Controls — 4 SCH

Participants in motor controls will understand the application, operational characteristics and advantages of variable speed motors. They will understand air flow performance between PSC, Constant Torque, and Variable Speed motors. Students will troubleshoot procedures for each type of motor and configure each motor type within a series of different indoor units to deliver proper air flow and obtain system performance.

Prerequisite(s): IET 100 or OSHA 30 and IET 121 Basic Controls with a grade of "C" or higher

⊤ This course is approved by the Kansas Board of Regents for System Wide Transfer (SWT) among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the [institution name] Registrar to learn more.

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Course Descriptions

⊤ **IET 230**	**Process Logistics and Advanced Manufacturing**	3 SCH

The objective of this course is to educate students in maintenance strategies about the principles, techniques, and benefits of condition-based maintenance (CBM). The course aims to equip participants with the knowledge to utilize data collection and implement CBM effectively in industrial settings.

Prerequisite(s): None

⊤ **IET 240**	**Applied Industry**	5 SCH

The objective of this course is to provide students with a foundational understanding of comprehensive and contemporary concepts of microprocessors and basic electronics with a focus on Industrial Internet of Things (IIoT). This course will cover various aspects, including foundational principles, functionalities, and applications of microprocessors, as well as their integration into industrial automation and IIoT systems.

Prerequisite(s): IET 100 or OSHA 30, IET 102, 103, 104, 210, and 220 with a grade of "C" or higher.

MAT 101	**Technical Mathematics I**	3 SCH

This is an overview of mathematics course that focuses on technical applications. Topics include basic quantitative problem solving, algebra with technical applications, measurement, proportions, and geometry. This course is designed to provide students with the mathematical background necessary for entering technical career fields.

Prerequisite(s): Meet placement guidelines

MAT 108	**Beginning Algebra**	3 SCH

This is an introductory algebra course that includes applications. Topics include a review of pre-algebra, variable expressions, solving algebraic equations, linear equations in two variables, inequalities and polynomials.

Prerequisite(s): None

MAT 109	**Technical Mathematics II**	3 SCH

This is an algebra-based mathematics course that focuses on technical applications. Topics include graphing linear equations, systems of linear equations, polynomials, factoring polynomials, quadratic equations, right triangle trigonometry and trigonometry with any angle. This course is designed to provide students with the critical thinking needed for solving complex technical problems.

Prerequisite(s): Meet placement guidelines OR MAT 101 with a grade of "C" or higher OR MAT 108 with a grade of "C" or higher

MAT 110	**Intermediate Algebra**	⊤ SWT MAT0990	3 SCH

This course is designed for students who have only one year of high school algebra and provides the algebraic skills necessary to begin conceptualizing abstract mathematical concepts in preparation for College Algebra. Topics covered will include Number Systems, Linear Equations and Inequalities, Lines, Systems of Linear Equations and Inequalities, Polynomials, Exponents, Rational Expressions and Quadratic Equations.

Prerequisite(s): Meet placement guidelines OR MAT 101 with a grade of "C" or higher OR MAT 108 with a grade of "C" or higher

MAT 135	**College Algebra**	⊤ SWT MAT1010	3 SCH

College Algebra is a comprehensive overview of the fundamental concepts of algebra. Topics include analyzing graphs of functions and equations (including symmetry, intercepts, left- and right- hand behavior, asymptotes and transformations); utilizing functional notation; determining the domain and range of a function; writing an equation that describes a function or a circle given its description; using graphs of functions for analysis; performing arithmetic combinations and compositions of functions; finding the inverse of a function; and solving equations, inequalities and systems of equations by various methods (including matrices).

Prerequisite(s): Meet Placement Guidelines OR MAT 109 with a grade of "C" or better OR MAT 110 with a grade of "C" or higher

⊤ This course is approved by the Kansas Board of Regents for System Wide Transfer (SWT) among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the [institution name] Registrar to learn more.

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MAT 145	Elementary Statistics	⊺ SWT MAT1020	3 SCH

Elementary Statistics is an introductory study of the fundamentals of modern statistics and probability. The main topics covered include descriptive methods, inductive statistics, probability, estimation and tests of hypotheses, along with other topics as time allows.

Prerequisite(s): Meet Placement Guidelines OR MAT 109 with a grade of "C" or better OR MAT 110 with a grade of "C" or better

MAT 155	Trigonometry	⊺ SWT MAT1030	3 SCH

Trigonometry courses prepare students for eventual work in calculus and typically include the following topics: trigonometric and circular functions; their inverses and graphs; relations among the parts of a triangle; trigonometric identities and equations; solutions of right and oblique triangles; and complex numbers.

Prerequisite(s): MAT 135 College Algebra with a grade of "C" or higher

⊺ MLT 1213	Introduction to the Laboratory for MLT		3 SCH

This course covers organization of the medical laboratory, educational requirements of laboratory scientist and their duties, and awareness of the professional and accrediting agencies associated with the field of laboratory medicine. The course also presents the principles behind the practice of laboratory safety, operation of laboratory equipment, specimen collection through venipuncture and capillary puncture. Quality control/quality assurance, laboratory mathematics, instrumentation and microscopy are also addressed.

Prerequisite(s): None

⊺ MLT 2216	MLT Hematology/Coagulation		6 SCH

This course presents the theory behind hematologic principles including the formation of blood cells, identification of normal and abnormal blood cells as they correlate to disease. Also included is the study of coagulation, the clotting and fibrinolytic mechanisms of the blood. Students will learn the theory and skills required to perform medical laboratory testing in Hematology and Coagulation.

Prerequisite(s): Admission to the MLT program or instructor approval

⊺ MLT 2303	MLT Urinalysis & Body Fluids		3 SCH

This course will provide the student with in-depth knowledge of the function of the kidney, urine formation, and the procedures utilized in performing a routine urinalysis and body fluid analysis. Correlation of abnormal findings and disease states will be discussed. Other body fluids included in this course are feces, seminal, amniotic, cerebrospinal, pleural, pericardial, and peritoneal. Discrimination between normal and abnormal findings and correlation of this knowledge to disease states will be included in the course material.

Prerequisite(s): Admission to the MLT program or instructor approval

⊺ MLT 2416	MLT Clinical Chemistry		6 SCH

This course will cover the physiology of the body and the biochemical reactions that are necessary for a healthy existence. The human condition is evaluated by biochemical shifts in different systems that maintain homeostasis during healthful periods. Basic interpretations of biochemistry and the concentration of enzymes, carbohydrates, lipids, proteins, electrolytes, blood gases, and therapeutic drug monitoring will be discussed. The student will perform routine clinical tests on biological fluids, maintain quality assurance records, and perform preventative maintenance on instrumentation.

Prerequisite(s): Admission to the MLT program or instructor approval

⊺ This course is approved by the Kansas Board of Regents for System Wide Transfer (SWT) among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the [institution name] Registrar to learn more.

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Ŧ MLT 2503	MLT Immunology		3 SCH

This course presents the theory, practice, and clinical applications in the fields of immunology and serology. The student will perform routine serological tests and apply them to disease processes.

Prerequisite(s): Admission to the MLT program or instructor approval

Ŧ MLT 2706	MLT Pathogenic Microbiology		6 SCH

This course will survey microbiology as it is applicable to a clinical laboratory. Procedures for routine specimen collection will be discussed and practiced. Normal flora and pathogenic bacteria will be identified by morphology, staining characteristics, growth on selective media, biochemical testing and serological methods. Basic theory in antimicrobial susceptibility testing will be covered. Principles of all tests will be studied. Study of viruses and chlamydia will be limited to the processing and handling of specimens for consultant referral and principles of serological testing. Normal and pathogenic parasites and fungal elements will be identified and procedures utilized for proper identification will be discussed.

Prerequisite(s): Admission to the MLT program or instructor approval

Ŧ MLT 2806	MLT Immunohematology		6 SCH

A study of the immunology of blood, including those principles and practices that are known collectively as blood banking. An overview of blood component collection and component preparation is presented. Basic concepts of genetics, immunology and antiglobulin testing are included as a foundation for the understanding of the blood group systems and antibody detection and identification. Current transfusion practices are discussed. The student will gain experience in performance of techniques in immunohematology.

Prerequisite(s): Admission to the MLT program or instructor approval

Ŧ MLT 2988	Clinical Internship for MLT		8 SCH

This course will offer students one-on-one work experience with clinical instructors to refine clinical laboratory skills within a designated clinical affiliate laboratory. This clinical internship will include 240 hours of clinical experience. This course will integrate knowledge gained in all MLT courses with practical experience in hematology, coagulation, chemistry, immunology, Immunohematology, microbiology, urinalysis, and serology.

Prerequisite(s): Successful completion of all technical courses

NTR 105	Nutrition	⊺ SWT HSC 1010	3 SCH

This course provides students with an understanding of the basic nutritional principles that can affect everyday lifestyles. Topics to be covered include: food selection, macronutrients & micronutrients and their function within the body, digestion and absorption of nutrients, energy balance, and water and electrolyte balance. Possible topics to be covered include: use and function of supplements, alcohol metabolism, food safety, sports nutrition, eating disorders, pregnancy and nutritional concerns, and geriatric nutrition.

Prerequisite(s): None

Ŧ NUR 107	KSPN Foundations of Nursing		4 SCH

This course provides an introduction to practical nursing and roles of the practical nurse as well as profession- and client-related care concepts. Emphasis is placed on the knowledge and skills needed to provide safe, quality care. The theoretical foundation for basic data collection and nursing skills is presented and an introduction to the nursing process provides the student with a framework for decision making.

Prerequisite(s): Admission to the PN program, and concurrent enrollment in NUR108

⊺ This course is approved by the Kansas Board of Regents for System Wide Transfer (SWT) among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the [institution name] Registrar to learn more.

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Course Descriptions

₮ **NUR 108**	**KSPN Foundations of Nursing Clinical**	2 SCH

This course provides an introduction to the skills required to practice nursing. The theoretical foundation for basic data collection and nursing skills is presented and the student is given an opportunity to demonstrate these skills in a clinical laboratory setting. Students are also given an opportunity to practice application of the nursing process to client-related situations.

Prerequisite(s): Admission to the PN program, and concurrent enrollment in NUR107

₮ **NUR 1112**	**KSPN Fundamentals of Pharmacology and Safe Medication Administration**	2 SCH

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.

Prerequisite(s): Admission to the PN program and concurrent enrollment in NUR 1175 and NUR 118

₮ **NUR 1175**	**KSPN Nursing Care of Adults I**	5 SCH

This course focuses on the care of adult clients experiencing common medical/surgical health alterations with predictable outcomes. Emphasis is placed on the care of clients with alterations in cardiac output and tissue perfusion, oxygenation, regulation and metabolism, and integument. Principles of pre-and post-operative care and IV therapy are also addressed.

Prerequisite(s): NUR107 and NUR108 with a "C" or higher; concurrent enrollment in NUR118 and NUR 1112

₮ **NUR 118**	**KSPN Nursing Care of Adults I Clinical**	3 SCH

This course focuses on the care of adult clients with common medical/surgical health alterations. The clinical laboratory experience provides the student an opportunity to apply the theoretical concepts from Nursing Care of Adults I and implement safe client care in selected settings.

Prerequisite(s): NUR 107 and NUR 108 with a "C" or higher; concurrent enrollment in NUR 1175 and NUR 1112

NUR 133	**KSPN Leadership, Roles, and Issues**	1 SCH

This course provides orientation to leadership roles of the LPN and related responsibilities. It will introduce issues to the student they will encounter in the workplace.

Prerequisite(s): NUR 1112 with a grade of 90% or higher, NUR 107, NUR 108, NUR 1175, NUR 118, and NUR 134 with "C" or higher. Concurrent enrollment in NUR 136, NUR 1375, NUR 138

₮ **NUR 134**	**KSPN Mental Health Nursing**	2 SCH

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.

Prerequisite(s): NUR 1112 with a grade of 90% or higher, NUR 107, NUR 108, NUR 1175 and NUR 118 with "C" or higher. Concurrent enrollment in NUR 136, NUR 1375, and NUR 138

₮ **NUR 136**	**KSPN Caring of Aging Adults**	2 SCH

This course is designed to explore issues related to the aging adults. Course content addresses the impact of ageism, alterations in physiological and psychosocial functioning, and the role of the practical nurse in caring for older adult clients across a continuum of care.

Prerequisite(s): NUR 1112 with 90% or greater, NUR 1175, and NUR 118 with a grade of "C" or better. Concurrent enrollment in NUR 133, NUR 134, NUR 1375, and NUR 138

₮ This course is approved by the Kansas Board of Regents for System Wide Transfer (SWT) among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the [institution name] Registrar to learn more.

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Course Descriptions

Ŧ NUR 1375　　　**KSPN Nursing Care of Adults II**　　　　　　　　　5 SCH

This course focuses on the care of adult clients experiencing common medical/surgical health alterations with predictable outcomes. Emphasis is placed on the care of clients with alterations in cognition and sensation, mobility, elimination, immunity and hematology, and reproduction. Principles related to emergency preparedness are also addressed.

Prerequisite(s): NUR 1112 with a grade of 90% or higher, NUR 107, NUR 108, NUR 1175, NUR 118 and NUR 134 with "C" or higher. Concurrent enrollment in NUR 133, NUR 136, NUR 1375 and NUR138

Ŧ NUR 138　　　**KSPN Nursing Care of Adults II Clinical**　　　　　3 SCH

This course focuses on the care of adult clients with common medical/surgical health problems. The clinical laboratory experience provides the student an opportunity to build on the theoretical concepts from Nursing Care of Adults I and II and implement safe client care in selected settings. Students are given the opportunity to practice leadership skills while managing a caseload of clients.

Prerequisite(s): NUR 1112 with a grade of 90% or higher, NUR 107, NUR 108, NUR 1175 and NUR 118 with "C" or higher. Concurrent enrollment in NUR 133, NUR 134, NUR 136, and NUR 1375

Ŧ NUR 170　　　**KSPN Maternal Child Nursing**　　　　　　　　2 SCH

This course provides an integrative, family-centered approach to the care of childbearing women, newborns, and children. Emphasis is placed on care of the pregnant woman and newborn, normal growth and development, and common pediatric disorders.

Prerequisite(s): NUR 1112 with a grade of 90% or higher; NUR 107, NUR 108, NUR 1175, NUR 118, NUR 133, NUR 134, NUR 136, NUR 1375, and NUR 138 with a grade of "C" or better. Concurrent enrollment in NUR 171

Ŧ NUR 171　　　**KSPN Maternal Child Nursing Clinical**　　　　1 SCH

This course provides an integrative, family-centered approach to the care of childbearing women, newborns, and children. Students are given the opportunity to observe the uncomplicated birth process and practice postpartum care as well as care of the newborn in the clinical laboratory setting. Common pediatric diseases and the growth and development process is the focus of child-related clinical laboratory experiences.

Prerequisite(s): NUR 1112 with a grade of 90% or higher; NUR 107, NUR 108, NUR 1175, NUR 118, NUR 133, NUR 134, NUR 136, NUR 1375, and NUR 138 with a grade of "C" or better. Concurrent enrollment in NUR 170

NUR 199　　　**Practical Nursing License**　　　　　　　　10 SCH

Per Nurse Practice Act pg 67 KSA 60-1-104(u), students enrolling in ADN program must have an active PN License.

Ŧ NUR 201　　　**RN Transition Course**　　　　　　　　　　2 SCH

Focus is on the role transition from LPN to RN. Emphasis is placed on the transition of the LPN to RN role, physical assessment skills, communication, and critical thinking skills. The student's responsibility for learning, self-evaluation, and collaboration is also emphasized.

Prerequisite(s): Admission to the ADN program. 2 credit hours (1.5 didactic, .5 lab)

Ŧ   This course is approved by the Kansas Board of Regents for System Wide Transfer (SWT) among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the [institution name] Registrar to learn more.

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Course Descriptions

⅁ NUR 220   Nursing Across the Lifespan   10 SCH

This course focuses on IV therapy, health promotion, illness prevention, and maintenance of health in acute or chronic conditions for individuals experiencing psychological/psychiatric, maternal/child, and medical or surgical problems across the lifespan. Clinical experiences may be gained on the Obstetrical, Pediatric, Psychiatric, and Medical-Surgical units. Nursing role emphasis is on organizing care for individuals using the nursing process. Critical thinking differentiates client needs based on age, health status, and acuity of condition, ethnic origins, and prognosis. The client's role within the family, his/her occupation, and society are taken into account. Principles and practices of IV therapy are emphasized.

Prerequisite(s): NUR 201 RN Transition Course with a "C" or better. 10 credit hours (7 didactic, 3 clinical)

⅁ NUR 230   Management of Patient Care   12 SCH

This course focuses on the management of patient care for larger groups. Health promotion and other treatment modalities are explored. Critical thinking is emphasized in the organization, coordination, and delegation of client care. Clinical experience is provided in the care of patients with more acute or complex conditions in areas such as medical, surgical, critical care, emergency room, and perioperative services. Leadership and management issues are explored as they relate to nursing practice.

Prerequisite(s): NUR 201 RN Transitions and NUR 220 Nursing Across the Lifespan with a grade of "C" or higher

PHY 100   General Physics   ⟁ SWT PHY1010   5 SCH

Physics is the study of translational and rotational motion, force, work, mechanical and thermal energy, linear and angular momentum, fluid mechanics, electricity and magnetism in industrial applications.

PHY100A and PHY100B are equivalent to SWT PHY1010

Prerequisite(s): Intermediate Algebra

POL 105   American Government   ⟁ SWT POL1020   3 SCH

This course will enable the student to gain knowledge of American politics through the United States Constitution, civil liberties, political socialization, the media, political parties, the three branches of government, and foreign policy.

Prerequisite(s): None

PSY 100   General Psychology   ⟁ SWT PSY1010   3 SCH

This course will serve as an overview of the major fields within psychology with an emphasis on developing an understanding of psychology as the science of human thought and behavior. The learning outcomes and competencies meet or exceed the outcomes and competencies specified by the Kansas Core Outcomes project for this course, as sanctioned by the Kansas Board of Regents.

Prerequisite(s): None

PSY 125   Human Growth and Development   ⟁ SWT PSY2020   3 SCH

This course offers information concerning normal physical, psychological, and social development changes that occur in a person from birth to death. Specific information identifying factors which influence human development and changes in family structure and living during the life cycle are covered.

Prerequisite(s): None

SOC 100   Introduction to Sociology   ⟁ SWT SOC1010   3 SCH

This course is an introduction to the study of the structure and function of human groupings, particularly those which occur in contemporary industrialized cultures. The relationships between the individual and his/ her society, culture and society, and the social dynamics of institutions are investigated.

Prerequisite(s): None

⟁ This course is approved by the Kansas Board of Regents for System Wide Transfer (SWT) among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the [institution name] Registrar to learn more.

Course Descriptions

SOC 150	Social Problems	⟶ SWT SOC2010	3 SCH

This course is an examination of contemporary social problems through sociological perspectives. It is designed to provide you with an understanding of how major systems of power such as racism, sexism, classism, and heterosexism, among others, are interrelated, and result in numerous social problems. Throughout the semester, we will explore ways in which these social problems are part of the organization of society, and way we can use our own agency to address them.

Prerequisite(s): None

SOC 200	Marriage and Family	⟶ SWT SOC2020	3 SCH

This course explores broad social issues related to marriage and family in contemporary society. Content includes nature of relationships and intimacy; gender roles, communication, love, dating, marriage and its alternatives, sexuality, and parenting, and crisis faced in intimate relationships such as divorce, poverty, and family violence.

Prerequisite(s): None

WLD 1001	Welding Safety		1 SCH

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).

Prerequisite(s): None

₮ WLD 1010	OSHA 10		1 SCH

The 10-hour General Industry Outreach Training Program is intended to provide an entry level worker's general awareness on recognizing and preventing hazards in a general industry setting.

Prerequisite(s): None

₮ WLD 110	Welding Metallurgy		1 SCH

This course covers metallurgical principles applied to welding including mechanisms of strengthening, phase equilibria, and microstructure of the weld zone.

Prerequisite(s): WLD 100

₮ WLD 116	Fabrication		1 SCH

To provide knowledge for the welder and fitter to become familiar with the types of set-up tools and their use and to locate and align parts according to design specifications for the completed weldment.

Prerequisite(s): WLD 1001, WLD 1010, WLD 110, WLD 1153, WLD 118, WLD 1303, WLD 140, WLD 150, WLD 171

₮ WLD 118	Discontinuities and Defects		1 SCH

As a welder you have the responsibility to evaluate your weldments, identify and classify discontinues and defects and the conditions that exist when evaluating discontinuities in order to decide whether they are acceptable or not.

Prerequisite(s): None

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Course Descriptions

⊺ WLD 1153   **Blueprint Reading**   3 SCH

In this course students will be provided exposure to blueprint reading beginning with identification of specific lines, views, abbreviations, symbols, joints and shapes specific to the welding industry. Students will interpret basic 3D sketches using orthographic projection and blueprints and solve mathematic equations and interpret scale ratios. Use of measuring tools and interpreting a Bill of Materials are also components of this course.

Prerequisite(s): None

⊺ WLD 1303   **Cutting Processes**   3 SCH

This course will include the cutting of ferrous metals with manual motor-driven and automatic oxy-acetylene shape cutting equipment, and high-energy plasma arch.

Prerequisite(s): None

⊺ WLD 140   **Intro to SMAW**   3 SCH

Through classroom and/or lab/shop learning and assessment activities, students in this course will: describe the Shielded Metal Arc Welding process (SMAW); demonstrate the safe and correct set up of the SMAW workstation; associate SMAW electrode classifications with base metals and joint criteria; demonstrate proper electrode selection and use based on metal types and thicknesses; build pads of weld beads with selected electrodes in the flat position; build pads of weld beads with selected electrodes in the horizontal position; perform basic SMAW welds on selected weld joints; and perform visual inspection of welds.

Prerequisite(s): WLD 1010 OSHA 10 and WLD 1001 Welding Safety or WLD 100 Welding Safety/OSHA 10

⊺ WLD 145   **SMAW Advanced Structural**   4 SCH

This course will provide advanced instruction in shielded metal arc welding safety, theory, and the skills used for all positions of shielded metal arc welding.

Prerequisite(s): WLD 1001, WLD 1010, WLD 110, WLD 1153, WLD 118, WLD 1303, WLD 140, WLD 150, WLD 171

⊺ WLD 150   **Intro to GMAW**   3 SCH

Through classroom and/or shop/lab learning and assessment activities, students in this course will: explain gas metal arc welding process (GMAW); demonstrate the safe and correct set up of the GMAW workstation.; correlate GMAW electrode classifications with base metals and joint criteria; demonstrate proper electrode selection and use based on metal types and thicknesses; build pads of weld beads with selected electrodes in the flat position; build pads of weld beads with selected electrodes in the horizontal position; produce basic GMAW welds on selected weld joints; and conduct visual inspection of GMAW welds.

Prerequisite(s): WLD 1010 OSHA 10 and WLD 1001 Welding Safety or WLD 100 Welding Safety/OSHA 10

⊺ WLD 155   **GMAW Advanced**   4 SCH

Students will receive instruction in proper setup and operation of MIG welding equipment to weld in all positions on aluminum and mild steel.

Prerequisite(s): WLD 1001, WLD 1010, WLD 110, WLD 1153, WLD 118, WLD 1303, WLD 140, WLD 150, WLD 171

⊺ WLD 1604   **Flux Cored ARC Welding Structural**   4 SCH

Students will receive instruction on the proper setup and use of flux cored arc welding equipment.

Prerequisite(s): WLD 1001, WLD 1010, WLD 110, WLD 1153, WLD 118, WLD 1303, WLD 140, WLD 150, WLD 171

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ℸ WLD 165   **SMAW/GMAW Pipe Welding**   3 SCH

Through classroom and/or lab/shop learning and assessment activities, students in this course will: demonstrate practical applications of pipe joint preparation and design to AWS (American Welding Society) welding codes specifications for pipe and pipe fittings, geometric curve design for branched joint of piping systems, wire and electrodes selections, SMAW, GMAW, and GTAW of pipe joints, welding discontinuities and defects, and methods of inspection and testing.

Prerequisite(s): WLD 1001, WLD 1010, WLD 110, WLD 1153, WLD 118, WLD 1303, WLD 140, WLD 150, WLD 171

ℸ WLD 171   **Gas Tungsten Arc Welding**   3 SCH

Through classroom and/or lab/shop learning and assessment activities, students in this course will explain the gas tungsten arc welding process (GTAW); demonstrate the safe and correct set up of the GTAW workstation; relate GTAW electrode and filler metal classifications with base metals and joint criteria; build proper electrode and filler metal selection and use based on metal types and thicknesses; build pads of weld beads with selected electrodes and filler material in the vertical position; build pads of weld beads with selected electrodes and filler material in the overhead position; perform basic GTAW welds on selected weld joints; and perform visual inspection of GTAW welds.

Prerequisite(s): WLD 1010 OSHA 10 and WLD 1001 Welding Safety or WLD 100 Welding Safety/OSHA 10

ℸ WLD 1764   **Gas Tungsten Arc Welding Advanced**   4 SCH

This course covers advanced topics in GTAW welding, including welding in Aluminum and Stainless Steel in all positions. The students will identify causes and sources for weld pool contaminates.

Prerequisite(s): WLD 1001, WLD 1010, WLD 110, WLD 1153, WLD 118, WLD 1303, WLD 140, WLD 150, WLD 171

ℸ WLD 190   **Welding Project Management**   2 SCH

This capstone course will utilize the students' welding and cutting skills combined with layout, design, and metal working procedures in order to construct and or repair welding projects.

Prerequisite(s): WLD 1001, WLD 1010, WLD 110, WLD 1153, WLD 118, WLD 1303, WLD 140, WLD 150, WLD 171

ℸ WLD 199   **Occupational Work Experience**   2 SCH

This course is a planned work experience in the welding work force that is supervised by the welding professional and monitored by the welding instructor.

Prerequisite(s): WLD 1001, WLD 1010, WLD 110, WLD 1153, WLD 118, WLD 1303, WLD 140, WLD 150, WLD 171

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