



2022-23 COLLEGE CATALOG



**MANHATTAN
TECH**

MANHATTAN AREA TECHNICAL COLLEGE



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 Genandt
President and CEO

2022-23 ACADEMIC CALENDAR

2022 FALL SEMESTER

JULY

5 A.D.N. Fall Semester classes begin

AUGUST

12 College In-Service | **CLOSED AT NOON**

18 Final Add Day

22-31 Welcome Week Activities

22 Fall Semester Begins | Tuition and Fees Due

SEPTEMBER

2 Financial obligation deadline (See page 38)

5 Labor Day | **COLLEGE CLOSED**

OCTOBER

14 Last day to adjust financial aid

17 Start of 2nd 8-week Courses

NOVEMBER

21-25 Thanksgiving Break | **COLLEGE CLOSED**

28 Classes Resume

DECEMBER

12-16 Final Exams

17 Nursing Pinning & Commencement

20-31 Holiday Break | **COLLEGE CLOSED**

2023 SPRING SEMESTER

JANUARY

2 Observed New Year's Day | **COLLEGE CLOSED**

3 College Open

6 College In-Service | **CLOSED AT NOON**

11 Final Add Day

12 Orientation for new Program Students (starting spring semester)

16 Martin Luther King Day | **COLLEGE CLOSED**

17 Spring Semester Begins | Tuition and Fees Due

FEBRUARY

3 Financial obligation deadline (See page 38)

2023 Spring Semester continued

MARCH

10 Last day to adjust financial aid

13-17 Spring Break | **NO CLASSES**

17 **COLLEGE CLOSED**

20 Classes Resume

Start of 2nd 8-week Courses

APRIL

20 2023 National CTE Letter of Intent Signing Day

27 Open House

MAY

8-12 Final Exams

12 Nursing Pinning & Commencement

13 Commencement

29 Memorial Day | **COLLEGE CLOSED**

2023 SUMMER SEMESTER

JUNE

1 Final Add Day

5 Summer Semester Begins | Tuition and Fees Due

9 Financial obligation deadline (See page 38)

JULY

4 Independence Day | **COLLEGE CLOSED**

5 Classes Resume

28 Summer Semester Ends

TBD Fall Celebration & Car Show

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 tuition refund dates, please refer to the [Enrollment Management Calendar on manhattantech.edu](#) and the Tuition Refund Policy on page 40 of the catalog.

COLLEGE DIRECTORY

BOARD OF DIRECTORS

785.320.4563

Board Chair

Brett Ballou Riley County

Board Vice Chair

Timothy Flanary Pottawatomie County

William Allen Geary County

Mike Matson Riley County

Heather Peterson Pottawatomie County

David Urban Riley County

COLLEGE STAFF

785.587.2800

PRESIDENT'S OFFICE

President/CEO

James Genandt, Ph. D

Executive Assistant to Sr Administration/Board Clerk

Hannah Miller

EXECUTIVE ADMINISTRATION

Vice President of Student Success/CAO/CSSO

Sarah Phillips, M.P.A.

Chief Information Security Officer/Director of Facilities

Josh Gfeller

Director of Finance

Kerri Bellamy

DEANS

Dean of Academic Affairs

Nathan Roberts

Dean of Academic Partnership and Outreach

Chris Boxberger

Dean of Nursing Education & Health Programs

Kim Davis, MSN, RN

Dean of Student Services

Neil Ross

STUDENT SERVICES

Welcome Center Attendant

Rick Duvendack

ADMISSIONS

Assistant Director of Admissions

Michelle Mackeprang

ACADEMIC ADVISING

Academic Advisor

Beth Dugan

Academic Advisor

Aryn Hopson

Academic Advisor

Lauren Rust

REGISTRAR'S OFFICE

Registrar

Steve Davis

FINANCIAL AID

Director of Financial Aid

Laura Weiss-Cook

Financial Aid Counselor

Sicilee Lansbury

BUSINESS OFFICE

Accountant

Cara Prichard

Student Accounts Specialist

Julia Strength

Human Resources Coordinator

Peter Vopata

Public Relations Coordinator

Bryant Kniffin

TEACHING & LEARNING CENTER (TLC)

Director of Academic Resources

Darren S. Ortega

REGIONAL TESTING CENTER

Regional Testing Center Director

Cindy Boxberger

ADULT EDUCATION

Instructor

Janae Haskell

Instructor

Elsa Valarazo

Instructor

Katherine Ventura

FACULTY

Air Conditioning & Refrigeration Instructor

Allen Sangwin

Automotive Technology Instructor

Jaren Nittler

Automotive Technology Instructor

Jeff Pishny, AAS, ASE Master

Automotive Technology Instructor

Alex Anderson, AAS, ASE Master

Biology Instructor

Matt Schacht, MS

Business Administration Instructor

Jason York, J.D./M.Acc

Chemistry Instructor

Chelsea Weese, MS

Communications Instructor

Rachel Ohmes, MS

Construction Technology Instructor

Ed Zahler

Electric Power & Distribution Instructor

Justin Meuli, AAS, Journeyman Lineman

Emergency Medical Sciences Instructor

Tony Bach

Industrial Engineering Technology & Critical Environment Technology Instructor

Mark Miller

Information & Network Technology Instructor

Rodney Stanfield, M.Ed.

Mathematics Instructor

Brian Koch, MS

Medical Laboratory Technology Coordinator

Marcella Fickbohm, MS, MT(ASCP)

Nursing Instructor

Dorothy Ascher, Ph.D., MS, MSN, RN

Nursing Instructor

Cindy Barnes, MS, BSN, RN

Nursing Instructor

Deirdre Greeley, MSN, RN

Nursing Instructor

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

Nursing Instructor

Monique McCollough, BSN, RN

Nursing Instructor

Cindy Sias, BSN, RN

Nursing Instructor

Dominic Solari, MSN, FNP-C

Social/Behavioral Sciences Coordinator

Marilea Williams

Welding Instructor

Thomas Mudd

PROGRAM DIRECTORS

Director of Allied Health & Continuing Education

Mark Ballinger, BSN RN, CCMA, CMAA, EMT

PROGRAM ASSISTANTS

Administrative Assistant – Nursing & Health Programs

Andrea Rose

Air Conditioning & Refrigeration and Construction Technology

Greg Cranford

Bioscience Lab Facilitator

Jennifer Torrey

ACADEMIC AFFAIRS

Student Success Coordinator

Casey Field

Instructional Technology Coordinator

Pamela Imperato

INFORMATION TECHNOLOGY

System Admin/Facilities Project Coordinator

Andrew Caponera

Director of Institutional Research and Effectiveness

Kim Withroder

Network Administrator

Bryanna Marihugh

IR Coordinator

Randal Geringer

Database Report Writer

Michelle Mueller

Helpdesk Technician

Logan Pelton

SECURITY

785.410.3844

Security Officer

Jaquayle Moore

FACILITIES

Head of Maintenance

Russell Chrest

Maintenance Specialist

Bill Davis

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

In making decisions to advance the mission of Manhattan Area Technical College, the faculty and staff value:

- Integrity... being accountable for our actions
- Student-centered instruction... addressing the needs of our students
- Relevant program content... applying industry recommendations
- Quality performance... striving for excellence

CORE ABILITIES

Core abilities at Manhattan Area Technical College are designed to enhance students' critical thinking, problem solving, and communication skills in their academic courses, as well as in their technical courses. The Manhattan Tech core abilities are as follows:

- Quantitative Literacy
- Written Communication
- Critical Thinking
- Oral Communication

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 component of a student's education. Woven throughout the curriculum, general education provides students with a foundation for lifelong learning.

General education refers to subject matter that is foundational in nature and contains general content that may apply to all disciplines of study. General education courses are designed to enhance and support technical studies. The general education categories are communications, mathematics, natural science, social science, humanities, and information literacy.

In support of its general education philosophy, Manhattan Tech has adopted the following goals for students:

- Use the English language effectively to read, write, speak, and listen critically
- Increase an understanding of science and technology
- 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:

- Effective written and oral communication
- 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 independently and in teams
- Exhibiting tolerance of, and respect for, diversity in human abilities, cultures, ages, and beliefs.

Within the technical programs, faculty members strive to reinforce and enhance student learning related to the General Education Objectives by providing learning opportunities that require students to apply skills acquired in their general education 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, 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 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 accrediting agencies.

PRINCIPLES OF COMMUNITY

Manhattan Tech is an environment dedicated to the teaching and learning of professional and technical skills in an increasingly diverse and ever-changing environment. Manhattan Tech 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 and work environment where our differences are valued and mutually accepted
- We agree to respect everyone's right to have and to share 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 1965, the Kansas State Board of Education established this institution under authority granted by Kansas Statutes Annotated 72-4412 and named it the Manhattan Area Vocational-Technical School. Educational programs were initially offered on the campus of Manhattan High School. Manhattan Tech's current campus, located at 3136 Dickens Avenue in Manhattan, Kansas, was occupied in 1967.

Through the years, the increasing influence of advancing technology in business and industry, health and emergency services, and government has made strong technical skills a requirement in most professions. Consequently, the training at Manhattan Tech is now referred to as technical education.

In that spirit, the School was renamed in 1992 as Manhattan Area Technical Center. Legislation passed in 1994, Kansas Senate Bill 586, amended K.S.A. 72-4412, providing the opportunity for technical schools to apply for conversion to technical colleges. In 1996, Governor Bill Graves signed into law Kansas House Bill 2606, which amended K.S.A. 72-4412, and designated the School as Manhattan Area Technical College. On July 1, 2004, Manhattan Area Technical College separated from USD 383 to become an independent entity.

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 regional accreditation agency recognized by the U.S. Department of Education.

It is approved with the:



Kansas Board of Regents
1000 SW Jackson, Ste. 520
Topeka, KS 66612-1321
785.296.3421
www.kansasregents.org

&



U.S. Department of Education
400 Maryland Avenue, SW
Washington, DC 20202-0498
800.872.5327
<http://www.ed.gov>

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



Accreditation Commission for Education in Nursing
3343 Peachtree Road NE, Ste 850
Atlanta, GA 30326
404-975-5000 www.acenursing.org



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



Kansas State Board of Nursing
900 SW Jackson, Suite 1051
Topeka, KS 66612
785.296.4929 www.ksbn.kansas.gov



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



Kansas Department for Aging and Disability Services
New England Building
503 S. Kansas Avenue
Topeka, KS 66603-3404
785.296.4986 www.kdads.ks.gov



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



Education Foundation

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



Occupational Safety and Health Administration (OSHA)
200 Constitution Ave NW
Washington, DC 20210



National Security Agency
9800 Savage Road
Ft. George G. Meade, MD 20755
301.688.6311 www.nsa.gov



Microsoft Office Specialist
75 Arlington Street, Ste 300
Boston, MA 02116
www.certipoint.com/PORTAL/desktopdefault.aspx?tabid=664&roleid=101



National Accrediting Agency for Clinical Laboratory Sciences
5600 N. River Road, Suite 72
Rosemont, IL 60018 773.714.8880



American Welding Society (AWS)
8669 NW 36 Street, #130
Miami, FL 33166



Kansas Board of EMS
Landon State Office Building
900 SW Jackson Street, Suite 1031
Topeka, KS 66612 785.296.7296



National Center for Construction Education & Research (NCCER)
13614 Progress Blvd.
Alachua, FL 23615
386.518.6500

ADMISSIONS

New Student Admission Requirements

Students who wish to attend a Manhattan Tech academic program must submit the materials below to be considered for admission:

1. Complete college application and application fee (found online at manhattantech.edu)
2. Official transcript verifying graduation and final grades from an accredited high school, registered home school, or a General Education Development (GED®) diploma.
3. ACT scores within the last three years, if available.
4. Meet college placement assessment criteria, unless exempt from assessment based on ACT scores. Refer to Entrance Assessment section for additional details.

Due to the limited class sizes and admission requirements, applicants are conditionally accepted to Manhattan Tech. Admittance into a program is on a first-applied basis for all programs except Selective Admission Programs and Electric Power and Distribution. We encourage applicants to visit with the Assistant Director of Admissions to discuss their options.

Returning Student Admission Requirements

Students who withdraw from a program may return upon meeting readmission criteria:

- Student applications are valid for three (3) consecutive years.
 - Student applications over three years old require a new application and application fee.
 - A change of program form must be completed with an academic advisor for applications within three (3) consecutive years.

Returning students must pay any outstanding balances prior to readmission and must pay tuition based on the rate at the time of readmission. Any grades previously recorded on student transcripts will remain on the transcript. Students considering withdrawal should first meet with a Manhattan Tech advisor for clarification of options.

Students dismissed due to disciplinary action or for academic reasons may be re-admitted contingent on the following:

- program space availability based on the date of application submission
- re-entry within one year of the dismissal date, and/or as stipulated in the terms of dismissal
- payment of all outstanding balances.

Returning students will pay tuition based on the rate at the time of readmission. Any grades previously recorded on the student's transcript will remain on the transcript.

Nursing students who fail to complete any prerequisite or semester coursework with a grade of "C" or higher in all courses will not be allowed to progress in the program and must reapply for a future class. To reapply, the student must complete all application requirements within the timeframe set by the Program Director. Readmission is not guaranteed.

Transfer Student Admissions Requirements

Transfer students are eligible for admission to Manhattan Tech if they meet new student admission requirements. It is highly encouraged that all official transcripts from previous colleges attended are on file in the Registrar's Office prior to enrollment. Students who falsify admission information, and/or fail to submit transcripts, are accountable for any issues arising from their misinformation.

Non-Degree Seeking Admission Requirements

A non-degree seeking student is someone interested in taking classes for personal or professional development, but not wishing to obtain a degree from Manhattan Tech. Non-degree seeking students are not required to pay an application fee or submit transcripts. Additionally, financial aid is not available for non-degree seeking students. To become a non-degree seeking student, applicants must complete the non-degree seeking application for admission. For enrollment in subsequent terms students may complete another NDS application or meet with an academic advisor.

Visiting Student Admission Requirements

A visiting student is one who is currently enrolled at another institution and plans to return to that college or university after attending Manhattan Tech. To qualify as a visiting student, applicants must be actively enrolled at another college or university.

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 or submit transcripts. Additionally, financial aid is not available for visiting students. At the end of the session, students must request that their grades be reported by transcript to their respective schools. Note that visiting students may need to submit a transcript to Manhattan Tech if a course requires proof of a pre-requisite.

High School Students / Concurrent Enrollment Admission Requirements

Students may receive concurrent high school/college credit, which can be applied toward a Manhattan Tech technical certificate/degree following the student's high school graduation. (Part-time enrollments will be considered if program space is available.)

Through the Excel in CTE Initiative (SB155, K.S.A. 72-4489), high school students receive a tuition waiver for technical tiered courses. See a counselor/advisor for more information.

Manhattan Tech's Concurrent Program provides high school students the opportunity to enroll in college courses taught at the high school. Students receive both high school and Manhattan Tech college credit for the course. Manhattan Tech courses taught at the high school follow the same course outline, outcomes, and competencies as the courses offered on campus. Students interested in enrolling should refer to www.manhattantech.edu/concurrent for more information and consult with their guidance counselor to determine course interest and eligibility.

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 2.5 or higher.
- Students must take the ACCUPLACER or show qualifying ACT scores to enroll in English Composition I and/or College Algebra. To schedule a placement test, visit www.manhattantech.edu/proctor
- Students are required to attend an enrollment session at their respective high school and submit their completed Concurrent Enrollment Form/Parent Financial Agreement. Students should check with their guidance counselor or the Manhattan Tech website for specific dates/deadlines, enrollment forms, and payment information.

Please note: these guidelines also apply to homeschooled students receiving dual credit.

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 provisions.

Admission Requirements for Selective Admission Programs

Admission to the college does not guarantee enrollment in specific programs of study. The following programs require a program application, in addition to the application for admission to the College. Generally, admission to these majors/programs is selective, and based on additional academic criteria.

- Associate Degree of Nursing
- Medical Laboratory Technology
- Practical Nursing

Students applying to these selective admission programs should reference the Information and Admission Packet located under the program's webpage.

Special Entrance Requirements

Manhattan Tech is not authorized by the U.S. Citizenship and Immigration Services to accept students seeking admission through a foreign student visa.

Individuals seeking admission who are not U.S. citizens, or are not born in the United States, may apply for admission if they meet **one** of the following criteria:

Non-citizen national

- The applicant must produce a passport stamped “Non-citizen National.”

Permanent Resident

- Alien Registration Receipt Card. (Form I-151, I-551, or I551C). The applicant must produce one of these documents with a current valid expiration date.
- Passport. The applicant must produce a passport stamped “Processed for I-551” with a valid expiration date.
- I-94. The student must produce an I-94 that is stamped “Processed for I-551” with a valid expiration date, or “Temporary Form I-551” with appropriate information filled in.

Other Eligible Non-citizen

- Temporary Resident Card. (Form I-699). The applicant must produce this document with a valid expiration date.
- Arrival-Departure Record. (Form I-94). The applicant must produce this document stamped as a Refugee Asylum Status, Conditional Entrant (before April 1, 1980), Parolee, Cuban-Haitian Entrant.

Students seeking entrance into the Adult Education Program are subject to the entrance standards found at:

www.manhattantech.edu/adulted

In addition to meeting one of the above criteria non-U.S. Citizen Students must:

- Fulfill all college entrance requirements in addition to special entrance requirements.
- Provide Manhattan Tech with a certificate indicating the “Test of English as a Foreign Language” (TOEFL) has been completed preceding application to Manhattan Tech with the minimum cut scores prescribed in the Nursing TOEFL testing section.

Prospective students not born in the United States must also provide one of the following documents:

- **Certificate of Citizenship**
The applicant must produce a Certificate of Citizenship, which includes the applicant’s name, certificate number, and the certificate issue date.
- **Certificate of Naturalization**
The applicant must produce a Certificate of Naturalization, which includes the applicant’s name, certificate number, Alien Registration Number, and name of the court and date where naturalization occurred.
- **Certification of Birth Abroad**
Report of Birth Abroad. The applicant must produce a Form FS-545, DS-1350, or FS-240, which includes an embossed seal, “United States of America” and “State Department.”
- **U.S. Passport**

Special Entrance Requirements for Undocumented Non-United States Citizens

Non-United States citizens are defined as applicants who do not possess a lawful U.S. immigration status. Additionally, undocumented students are not eligible for federal financial aid/assistance. To be eligible to apply for admission to Manhattan Tech, the applicant must meet the following qualifications for the state of Kansas:

1. Provide records that they have attended for three or more years and graduated from an accredited Kansas high School or obtained a GED in Kansas.
2. File an affidavit with Manhattan Tech stating an application to legalize their immigration status has been filed, filed for US citizenship, or their parents have filed such an application. Affidavits are available by meeting with the Dean of Students.

In addition to meeting the state of Kansas special entrance requirements, undocumented non-U.S. citizens must meet all College entrance requirements as well.

Entrance Assessments

Students must qualify to enroll in: Writing (English Composition I) and Math (Technical Math I, Technical Math II, Beginning, Intermediate, and College Algebra) through meeting college placement 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 USD per assessment. Placement in English and Math courses are determined by completion of college placement assessment criteria. Students who have undergone placement assessment testing or ACT testing within three years of their Manhattan Tech enrollment date may use those scores as part of the evaluation process to determine placement in general education courses.

An official copy of those 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 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 of this catalog.

English Proficiency

All students enrolled at Manhattan Area Technical College are required to be proficient in the English language. For international students in which English is not the primary language of their country, the TOEFL exam must be taken to demonstrate one's effectiveness with the English language.

Applicants can show English competency by completing the below testing. The cost incurred is the sole responsibility of the individual.

The TOEFL is the Preferred Examination used by most Colleges and Universities in the U.S. Manhattan Tech does not administer the TOEFL. This exam is administered worldwide at scheduled times throughout the year. Each area must meet the minimum requirements in the categories listed below:

Writing: 20 Speaking: 20 Reading: 19 Listening: 20

The TOEFL is the preferred examination used by most colleges and universities in the U.S. Manhattan Tech does not administer the TOEFL. This exam is administered worldwide at scheduled times throughout the year.

Locally, registration forms for testing may be obtained from the local entities below:

- Office of Testing Programs and Services on the campus of Kansas State University (2323 Anderson Ave, Ste 102). Students can reach their office at 785.532.2957 or email them at testing@ksu.edu

TOEFL Waiver

All students enrolled at Manhattan Area Technical College are required to be proficient in the English language. For international students in which English is not the primary language of their country, the TOEFL exam must be taken to demonstrate one's effectiveness with the English language.

Waiving the requirement is done on a case-by-case basis, and the Office of Admissions has the discretion to require a TOEFL from any student at any time. The waiver can be found online at <https://manhattantech.edu/TOEFL-Waiver-Request>.

The TOEFL exam may be considered for a waiver for the following reasons:

1. You have earned a diploma from an accredited U.S. high school OR a bachelor's degree (or higher) from an accredited U.S. college or university.
2. You have earned a grade of 'C' or better for a college-level English Composition course at a regionally-credited U.S. college
3. You are from one of the TOEFL-exempt countries

TOEFL-exempt Countries

- | | | | | | |
|-----------------------|--|-------------------|-------------------|--------------------------------|--|
| • Antigua and Barbuda | • British Virgin Islands | • Ghana | • Mauritius | • St. Kitts and Nevis | • United Kingdom (England, Scotland, Northern Ireland & Wales) |
| • Australia | • Canada (All provinces except Quebec) | • Grenada | • Micronesia | • St. Lucia | • Zambia |
| • Bahamas | • Cayman Islands | • Guyana | • New Zealand | • St. Vincent & the Grenadines | • Zimbabwe |
| • Barbados | • Dominica | • Ireland | • Nigeria | • Tanzania | |
| • Belize | • Fiji | • Jamaica | • Sierra Leone | • Trinidad & Tobago | |
| • Bermuda | • Gambia | • Kenya | • Singapore | • Uganda | |
| • Botswana | | • Liberia | • Solomon Islands | | |
| | | • Marshal Islands | • South Africa | | |

Note: Any special circumstances outside the requirements noted above can be submitted using the TOEFL Waiver Request Form. The admissions team will review those exceptions along with your detailed explanation and reply to you within 5-7 business days with whether or not a waiver can be granted.

Acceptance into Manhattan Tech Programs

After completing admission requirements, applicants will receive notification of acceptance into their program of study via 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 New Student Enrollment/Orientation. Students who do not attend New Student Enrollment/Orientation will forfeit their spot in their selected program to a student on the stand-by list, who attended New Student Enrollment/Orientation.

Applicants to the nursing program should be aware that certain criminal convictions would 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 Manhattan Tech Director of Nursing (785.320.4543) or the Kansas State Board of Nursing (785.296.4325) with any questions.

Social Security Numbers

Each entering American student is asked 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 unless the Social Security number is on file. Social Security numbers are used for identification and required 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 is spread 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 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 appeal 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 U.S. Department of Education's Office for Civil Rights (OCR) enforces, among other statutes, Title IX of the Education Amendments of 1972. Title IX protects people from discrimination based on sex in education programs or activities that receive Federal financial assistance. Title IX states that:

No person in the United States shall, based on sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance.

Manhattan Tech Title IX Coordinator: Sarah Phillips, M.P.A.

Manhattan Tech Identified Responsible Employee/Non-Mandatory Reporter: Marilea Williams

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 degree-seeking students at Manhattan Tech have the opportunity and are encouraged to meet with an academic or faculty advisor. Academic advisors will provide advising services for all program students, including Pre-ADN, Pre-MLT, and Pre-PN students. Students accepted into the Associate Degree Nursing, Medical Laboratory Technology, or Practical Nursing programs will additionally be advised by the program faculty advisor. 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.

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.

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 [Manhattan Tech Online](#) for additional information.

Requesting a Manhattan Tech Transcript

Upon formal request, former students or graduates may obtain an official transcript at a cost of \$12.50 per transcript requested. (*Electronic PDF Delivery has an additional \$0.50 fee.*) Transcripts are available 10 days after grades are posted. Please note: Transcripts are available for continuing education students as of Fall 1994, and for all workforce development

students as of Spring 2004. Students must pay all outstanding debts or Financial Exit Counseling (if required) to Manhattan Tech before their degree/technical certificate and/or transcript will be released. Any release of a Manhattan Tech student transcript will be approved and documented by the Registrar's Office.

Prior to enrolling in courses through another college or university, contact Manhattan Tech Student Services personnel (785.587.2800) to determine if the class(es) will meet Manhattan Tech's transfer criteria.

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. Only course work with a grade of C or higher may be transferred.

- **Manhattan Tech does not accept faxed transcripts as official from post-secondary institutions.**
- **Transcripts sent from home schools are required to be notarized.**

Reverse Transfer

Reverse Transfer is the process of retroactively granting associate degrees to students who have not completed the requirements of an associate degree prior to transferring from a Kansas community college or technical college to a Kansas public university.

Students who transfer coursework from a community college or technical college will be notified of their eligibility for consideration of reverse transfer within the first term of attendance at their selected university. Eligible students must have completed 45 credit hours at one or more public community colleges or technical colleges in Kansas and must consent to the release of their academic records. Academic records will be evaluated for degree completion and degrees will be conferred based upon a satisfactory evaluation. Contact the Registrar's Office at registrar@manhattantech.edu for more information.

Articulation/Memorandum of Understanding (MOU) Agreements

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

An articulation agreement is a formal arrangement to transfer a defined set of academic credits between an academic program of one institution, most often a two-year post-secondary institution, to a baccalaureate degree granting college or university. The institutions listed below have an articulation agreement &/or MOU with Manhattan Tech.

Manhattan Tech current secondary (high school) Articulations/MOUs:

- Blue Valley High School (USD 384)
- Clay Center Community High School (USD 379)
- Clifton-Clyde High School (USD 224)
- Flint Hills Christian School
- Junction City High School (USD 475)
- Manhattan High School (USD 383)
- Riley County High School (USD 378)
- Rock Creek High School (USD 323)
- Wakefield High School (USD 379)
- Wamego High School (USD 320)

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

- have an official transcript from the secondary institution or institution of higher education on file with Manhattan Tech (student-issued transcripts are not acceptable)
- have a C or higher in all classes being considered for transfer or award of credit

Students must meet all qualifying requirements of the Articulation Agreement/MOU. Additionally, the student will:

- send an official high school transcript
- be degree seeking within the program they are requesting the articulated credit to be awarded
- with the assistance of their advisor, complete the Transfer/Articulation Form and remit to the Registrar's Office

Acceptance of transfer credit to other schools is entirely up to the receiving institution; Manhattan Tech does not guarantee credit transfer.

Credit for Prior Learning

Students may seek award of credit for prior learning through Advanced Placement (AP), Advanced Standing, College Level Examination Program (CLEP), VA National Testing Program (DSST) formally known as DAN TES, 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 testing is an opportunity for high school students to earn college credit by examination. These tests are given by the College Entrance Examination Board (CEEB) in May of the junior or senior year, in high schools offering advanced placement courses.

Students who have completed any of the following CEEB Advanced Placement tests should have the Educational Testing Service (ETS) forward an official report of their scores to the Registrar's Office in order to receive credit. To order reports, students must pay the required fee and provide ETS with the year the Advanced Placement test was taken, subject of the exam, and birth date or Social Security number. Requests should be sent to: Advanced Placement Program, PO Box 6671, Princeton, NJ 08541-6671.

When calculating grades from the Advanced Placement tests, scores of 5, 4, or 3 are granted as indicated. No credit is granted for scores of 2 or 1. If the letter grade is awarded, it will become part of the student's GPA at Manhattan Tech. Advanced Placement courses can be used toward Manhattan Tech's General Education requirements.

The following list of course equivalencies, credit hours, and grades shown indicate Manhattan Tech's acceptance policy only. Other institutions may interpret recommendations differently.

AP Course	Score	Manhattan Tech Course	Credit Hours	Grade
Biology	5	BSC 110 Biology	5	A
	4	BSC 110 Biology	5	B
	3	BSC 110 Biology	5	Cr
Chemistry	5	CHM 110 Chemistry I	5	A
	4	CHM 110 Chemistry I	5	B
	3	CHM 110 Chemistry I	5	Cr
English Composition	5	COM 105 English Comp I	3	A
	4	COM 105 English Comp I	3	B
	3	COM 105 English Comp I	3	Cr
Physics 1	5	PHY 100 General Physics	5	A
	4	PHY 100 General Physics	5	B
Psychology	5	PSY 100 Gen. Psych	3	A
	4	PSY 100 Gen. Psych	3	B
	3	PSY 100 Gen. Psych	3	Cr
Statistics	5	MAT 145 Elem. Stats	3	A
	4	MAT 145 Elem. Stats	3	B
	3	MAT 145 Elem. Stats	3	Cr
United States American Government & Politics	5	POL 105 American Government	3	A
	4	POL 105 American Government	3	B
	3	POL 105 American Government	3	Cr

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 Vice President of Student Success.

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, diploma, 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.

COURSE ► TRANSFER

Transfer to Other Institutions

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.

Manhattan Tech's current post-secondary Articulation Agreements and Memorandum of Understandings:

Chamberlain College of Nursing

- Bachelor of Science in Nursing

Fort Hays State University

- 2+2 - Bachelor of Technology Leadership

Grantham University

- 2+2 - Accounting
- Business Administration
- Information Network Technology
- General Studies

Kansas State University

- 2+2 - Bachelor of Science in Technology Management

Kansas University School of Nursing

- Bachelor of Science in Nursing

Manhattan Christian College

- Bachelor of Science in Management and Ethics
- Bachelor of Arts or Science of in Bible/Leadership

Oklahoma State University

- Bachelor of Technology

Ottawa University

- 2+2 - Nursing

Pittsburg State University

- 2+2 - Nursing
- Accounting, Computer Science-Information Systems
- Automotive Technology
- Engineering Technology
- Technology Studies
- Technical Teacher Education
- Technology Management

Washburn University

- 2+2 - Bachelor of Applied Science in Technology

Wichita State University

- Bachelor of Science in Dental Hygiene
- Bachelor of Science in Nursing

IN ACCORDANCE WITH THE FAMILY EDUCATION RIGHTS AND PRIVACY ACT OF 1974, AS AMENDED, TRANSCRIPTS MAY NOT BE RELEASED TO A THIRD PARTY WITHOUT THE WRITTEN CONSENT OF THE STUDENT.

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

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.
- Communicate the importance of career and technical education to both internal and external audiences.
- Create recommendations for institutional advancement through the development, implementation, and analysis of qualitative and quantitative assessment systems.

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. We endorse and foster the Principles of Community, recognizing the role of the TLC in modeling a safe and equitable environment for every member of our community. Students and instructors have access in the TLC to appropriate devices and staff services to reinforce a positive and engaging learning environment.

Tutoring & Academic Support

Manhattan Tech is committed to providing the necessary academic and social support necessary for students to be successful in their chosen career through the TLC. 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, call 785.320.4584, or visit our website at manhattantech.edu for more information.

Accommodation/Support Services

The Student Services Office 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, which was 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 current documentation from a doctor or licensed clinician. Manhattan Tech is only required to accommodate a disability if the student has disclosed their disability to the Student Retention Specialist (or the College's alternately 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 who is familiar with you and your type of disability, and has

completed applicable, supporting documentation validating the specific disability. The summary letter must outline the disability, test results, limitations to learning, and reasonable recommended academic accommodations in order to meet the needs of post-secondary coursework.

The documentation must reflect your abilities and limitations at the academic post-secondary level at the time you request the accommodation. Please note: The post-secondary school is not required to make changes or adjustments that fundamentally alter the academic 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).

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:

- 24/7/365 Service Toll free line for in-the-moment support or referrals
- 1-5 sessions of face to face counseling
(Structured telephonic, Text message based clinical support, and Video counseling (based on availability))
- Financial/Budget and Debt Consultations
- Free 30-minute legal consultation and referral
- Provide Student/Work/Life Resources and Referrals
- Access to Wellconnectforyou.com website and mental health screenings
- Faculty Consultations – unlimited
- Formal Referral Program
- Translation in over 180 languages
- Pairing to counselors based on cultural, age, language, and gender preferences.

An onsite counselor is also available to meet with students. They can be reached at counselor@manhattantech.edu.

Student Organizations

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.

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.

SOUNDING THE ALARM

Anyone may notify emergency services by calling 911 and then calling the front desk at 785.587.2800, or by dialing zero (0) from an on-campus phone.

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 yourselves from potential harm. The time to provide details, and discuss options and philosophy about procedures is before the need to act arises, and of course 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 an administrator by dialing 4444 from an on-campus phone, through notifying the front desk, and/or calling 911. 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.
- Call extension 4444 (administration), 4403 (front desk), and/or use the SafeDefend System if it is safe to do so. Provide as much detail as you know and what action you have taken.
- 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.

EYEWITNESS MESSAGES

If you see something that needs to be reported such as vandalism, theft, an emergency situation such as a fire or tornado, or even a dangerous looking person, call 911 and then, if you can, text the RAVE system to allow the college to send an alert.

EyeWitness: To submit a tip, text "matctip" followed by your message to 67283. Remember, your text will remain anonymous.

VIDEO SURVEILLANCE

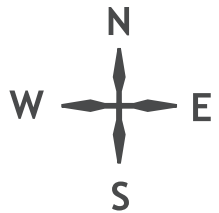
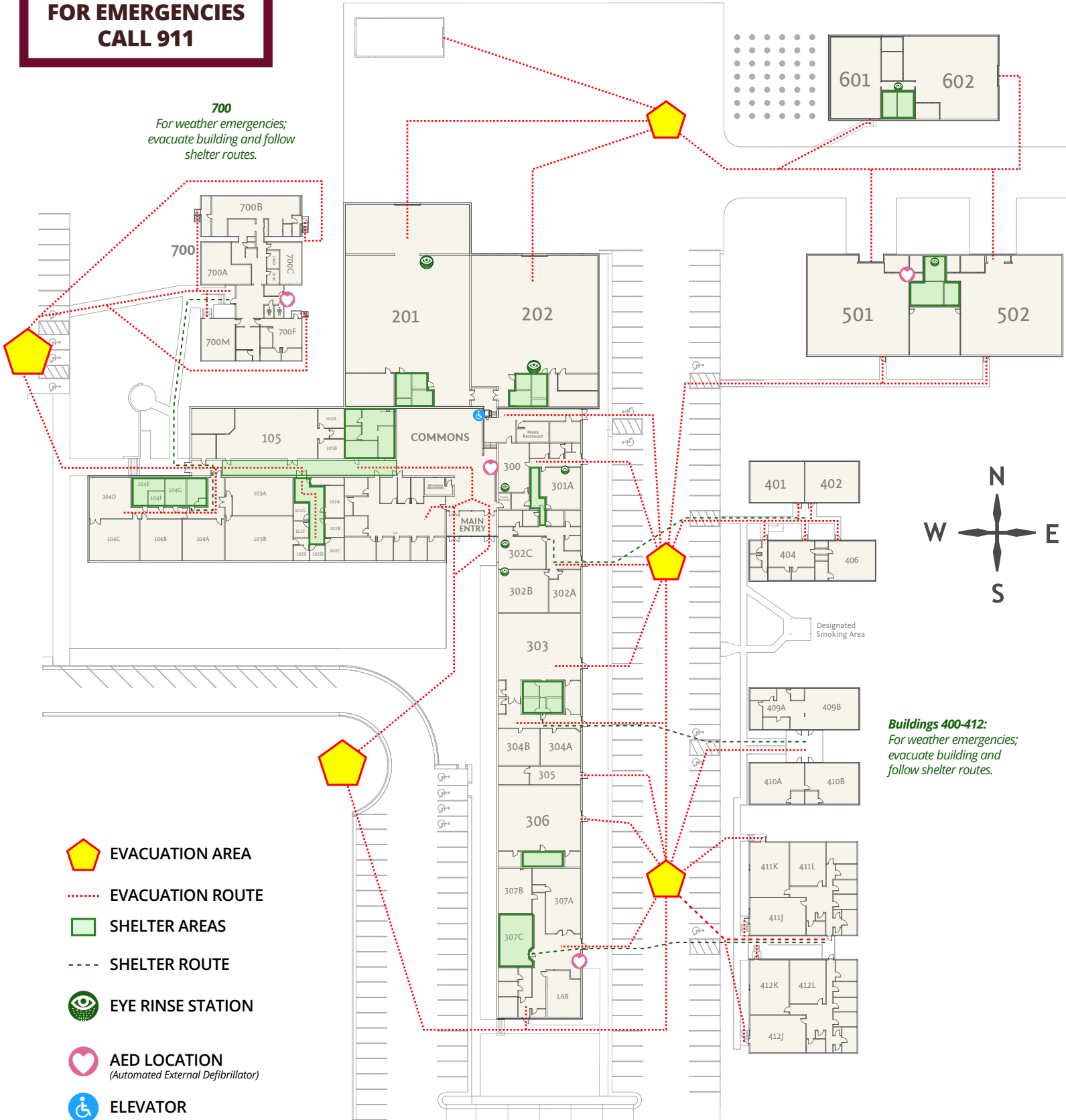
Manhattan Tech uses video monitoring and recording to keep students, employees, and guests safe, and to have accurate reporting available to emergency authorities.

CAMPUS SAFETY MAP

CAMPUS SECURITY: 785.410.3844



**FOR EMERGENCIES
CALL 911**



updated Summer 2022

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.

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
- Air Conditioning & Refrigeration
- Associate Degree Nursing
- Automotive Technology
- Biotechnology (*Suspended*)
- Business Administrative Assistant
- Business Accounting
- Certified Medication Aid (CMA)
- Certified Nursing Assistant (CNA)
- Construction Technology
- Critical Environment Technology
- Electric Power & Distribution
- Emergency Medical Sciences (EMS)
- Emergency Medical Sciences: Advanced
- Information & Network Technology
- Industrial Engineering Technology
- IV Therapy
- Medical Laboratory Technology
- Phlebotomy
- Practical Nursing
- 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 awarding 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.

Associate of Applied Science Degree

The Associate of Applied Science degree is designed primarily to prepare students for employment. An Associate of Applied Science degree will be awarded upon satisfactory completion of a program of study of not less than sixty (60) credit hours, including general education requirements designated for each program of study, and a minimum GPA of 2.0. All AAS degree awards must have a minimum of 15 credit hours of general education (seen in table on next page), including 3 credit hours of math and 3 credit hours of communications.

Manhattan Tech coursework will meet technical specialty requirements, while general education requirements can be met through completion of specified course work at Manhattan Tech, or from a regionally accredited college or university. The general education requirements may be completed prior to enrollment at Manhattan Tech, concurrently with technical specialty requirements, or following completion of the technical requirements. Only course work with a grade of C or higher may be transferred.

Students who have completed a technical program certificate and desire to complete an AAS degree must consult with Student Services staff and/or a Manhattan Tech advisor. Students who plan to complete an AAS degree must have attained a high school diploma or GED prior to the awarding of the degree and maintained a minimum cumulative GPA of 2.0.

While the AAS degree is designed to enhance employment opportunities, articulation agreements have been established with four-year universities to recognize this degree for transfer of credits. See Manhattan Tech Student Services staff for more information regarding these transfer opportunities, as well as degree planning assistance. Transfer of credit is at the discretion of the receiving institution. Manhattan Tech does not guarantee transfer of credit.

Students who complete general education requirements and technical electives after completing a Certificate in one of the technical program areas will be awarded an AAS degree. See specific program pages for program requirements.

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.

The Associate of Applied Science in Applied Technologies degree will be awarded upon satisfactory completion of a minimum of 30 technical program credit hours (15 credit hours each from two different programs of study), 15 technical credits, plus completion of 15 credit hours in general education courses (seen in table below), completing a minimum of 60 credit hours to develop a technical program with a focus directly related to the student's career objective. This degree is two years in length and utilizes previously approved courses in Kansas Board of Regents approved programs.

Additionally, students who choose to complete an Associate of Applied Science in Applied Technologies degree in a technical program of study with an additional 15 credit hours from technical study electives in qualifying programs of study, totaling a minimum of 60 credit hours may be awarded the Associate of Applied Science in Technical Studies.

Example: Complete 10 credits of Automotive Technology program at high school + 16 credits of Construction Technology + change your focus and complete a Certificate A (19 credits) + 15 general education credits = 60 credit hours

Students choosing the AAS in Applied Technologies degree option will work with their respective advisor to determine the appropriate coursework to complete. The Associate of Applied Science Degree is designed for employment purposes, and it should not be assumed the degree or the courses in the degree can be transferred to another institution. Students to whom transfer is important should obtain assurances in writing in advance from the institution to which they wish to transfer.

General Education Courses – 15 Credit Hours

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

Technical Certificates

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

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

- Air Conditioning and Refrigeration
- Automotive Technology
- Biotechnology
- Business Accounting
- Business Administrative Assistant
- Construction Technology
- Electric Power and Distribution
- Industrial Engineering Technology
- Information & Network Technology
- Practical Nursing
- Welding Technology

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. The appropriate academic department and the Registrar must approve requests for posthumous degrees or certificates. 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

Procedures for evaluating credit

Manhattan Tech shall follow the recommendations of the Joint Statement on the Transfer and Award of Credit, 2001, in implementing its transfer policy and procedures (www.acenet.edu).

Non-traditional credit limit

The award or transfer of non-traditional credit used toward a degree or certificate award shall not exceed 25% of the credit hours required for the requested degree or certificate. See Credit for Prior Learning Policy.

Transfer Credit

An evaluation of systemwide transfer per the Board of Regents credit will be completed after an Admission Form has been filed and official transcripts have been sent from the accredited institution to the Manhattan Tech Registrar's Office. Unofficial transcripts will not be considered for transfer. In order to receive transfer credit, a grade of "C" (2.0 on a 4.0 scale) or better must have been made in the subject. No credit is given for academic courses with pass/fail or satisfactory/unsatisfactory grades. The Registrar, or their designee, will determine the equivalency of transfer courses. Courses not a part of the SWT systemwide transfer agreement can be requested for transfer by completing the credit for prior learning process. Manhattan Area Technical College shall not limit the total number of traditional credits a student may earn through transfer as long as at least 25% of the credit toward graduation comes from MATC course work. In most cases, the transcript will be evaluated within 30 days of receipt by the Registrar's Office.

Transfer Courses for General Education

Manhattan Tech provides general education courses that fulfill the AAS degree requirements for the College's own programs. Additionally, the courses that are offered to fulfill these requirements are approved by The Kansas Board of Regents to be accepted in transfer for general education credit at any public post-secondary educational institution in Kansas.

Each course approved and accepted in transfer for general education credit by the Board is identified by a shared course number that supports a student-first philosophy and is designed to enhance educational planning and effortless course transfer. A Systemwide Transfer code (SWT) uses a 3-letter prefix and a 4-digit course number to differentiate the SWT number from individual institution course prefixes and numbers. See course descriptions in the back of the catalog for Manhattan Tech's SWT general education courses offered.

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 http://kansasregents.org/transfer_articulation.

For more information on general education courses offered at Manhattan Tech, contact our general education faculty:

Communications

Rachel Ohmes, MS
785-587-2800

RachelOhmes@manhattantech.edu

Sciences

Matt Schacht, MS
785.320.4549

matthewschacht@manhattantech.edu

Mathematics

Brian Koch, MS
785.320.4531

briankoch@manhattantech.edu

Sciences

Chelsea Weese, MS
785.320.4579

Chelseaweese@manhattantech.edu

Social Sciences

Marilea Williams, MS
785.320.4588

Marileawilliams@manhattantech.edu

Virtual Learning

Methods of Instruction/Delivery Method

All courses at Manhattan Tech require coursework to be submitted through the online learning management system, Canvas. To ensure all courses offered to distance students are well designed, expertly taught, and adhere to practical considerations, all online 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
- Support our students, instructors, and staff with the feedback they need to succeed while involved in online education
- Hold our students and instructors to a high level of accountability and performance standards
- Use our assessment and evaluation processes to assure quality of online course design and instruction, and improve student learning
- Provide our instructors with support, resources, and training in current pedagogies for high-quality online and blended instruction
- Provide our students with comprehensive advising and support regarding online learning

Face-to-Face Delivery Format

- While all courses at Manhattan Tech require coursework to be submitted through the online learning management system, Canvas, in a face-to-face course one hundred percent of contact will occur in-person

Blended Delivery Format

- Blended courses will convene face-to face (or synchronous) as scheduled
- More than 50 percent of contact will occur online through the learning management system
- Requires compliance with the online attendance policy
- May require proctored events such as finals and quizzes
- Course Code begins with "1B/2B"

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
- Course Code begins with "1L/2L"

Definitions

Face-to-face: All seat-time is met in-person during the set class schedule. Students will still have readings and assignments to complete outside of class time.

Blended: Courses in which more than 50 percent of contact occurs online and convene in-person as scheduled. Also known as a hybrid course.

Online: All traditional face-to-face instruction and interaction occurs online, though events such as finals and quizzes may be proctored.

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)

Before Enrolling

Take a moment to consider the following about online and blended learning:

Policies

- There may be an additional fee for enrollment in online or blended courses.
- 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 assist 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. See System Requirements at www.manhattantech.matc.net/ICS/Help.

Hardware

	Minimum Required	Recommended
Operating System	Microsoft Windows 10	Microsoft Windows 10
Processor/Memory	Intel Pentium (Sandy Bridge) or AMD A6 (Trinity) or better	Intel I3 (Sandy Bridge) or AMD A8 (Trinity) or better
Mobile Devices	We require students to have some form of laptop or desktop.	If you choose to use a supplemental device, we recommend the Microsoft Windows 10, Android 6.0, or Apple iOS 10 or newer.
Wireless	We implement 802.11ac with WPA-Enterprise with 802.1x. Your device must support this or you will be unable to join the wireless network.	

Software

	Purpose	Where to Get It
Mozilla Firefox	You should also have at least one alternative web browser on your device.	www.mozilla.org/firefox
Google Chrome	You should also have at least one alternative web browser on your device.	www.google.com/chrome/browser/
Adobe Reader	To view multimedia	www.adobe.com/downloads/
Java Run Time Environment	To view and use websites and applications	www.java.com/en/

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.

Access Your Online Class

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.

To access courses, browse to <https://manhattantech.edu> and select Canvas in the Sign In dropdown menu. On the right side of the screen, enter your Username and Password, and then click the Sign in button. If you are not sure of your Username

and Password, or wish to change your password from the one assigned to you in the Welcome email, navigate to <https://matconline.matc.net> and click “Reset Password” on the navigation menu on the left.

Once logged in to Canvas, your courses will display on the Dashboard. To view all courses, click Courses in the global navigation menu on the left, and choose All Courses. Locate your online course(s) and click the link from either All Courses or the Dashboard to be directed to your online class website. IMPORTANT: Courses will open at 8:00 am on the course start date.

Prepare for Your Online Class

In preparation for your online course, go to www.manhattantech.edu and view resources on the TLC page and review the Canvas Student Guide.

First Day of Class

To start the semester out on the right foot, review the Canvas Student guide found on the TLC page at manhattantech.edu. Following this, also:

- Check your email for your instructor’s welcome message.
- Email your instructor to introduce yourself and ask questions.
- Read the class syllabus.
- Locate the first assignments inside the first class module.

College Email

All members of the College have an @manhattantech.edu email address. We require you to use email for your coursework. You will also receive official college correspondence only through this email address. It will be important to have your email set up and accessible before the beginning of classes.

Check your Webmail inbox often. We recommend doing so daily. In order to access your email, log into MATC Online and click on the MATC Webmail link under Quick Links—left navigation. Once you reach Webmail, select the link for Students. You will then need to enter your full @manhattantech.edu email address and password. Click Sign in.

Catalog Compliance

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 the five-year period has lapsed, a returning student will be placed under the current catalog year.

Students have the option of following 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 your catalog of record, which may impact which courses you are required to complete. For assistance in determining how a change of major will affect your progress toward a degree or certificate, or for information on determining your current catalog of record for graduation, schedule an appointment to meet with your advisor prior to submitting a Change of Degree/Major form.

Auditing a Course

Students who wish to enroll in a course, but do not wish to receive 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 course, with credit-seeking students having priority for entry into the course. Students will be charged 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, and these 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.

Calendar System

As of 2004, all academic credit hours are awarded in semester hours. From 1996-2004, both clock hours and credit hours were recorded with a ratio of 30 clock hours to 1 credit hour. Prior to 1996, clock hours were recorded as the measure of academic credit.

GRADING SYSTEM

Grade Point Average (GPA)

GRADE POINT AVERAGE (GPA)

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

Calculated in GPA			Not Calculated in GPA	
A	Excellent	4 grade points	AC	Articulation Credit
B	Good	3 grade points	AU	Audit
C	Fair	2 grade points	AW	Administratively Withdrawn
D	Poor	1 grade points	I	Incomplete
F	Failure	0 grade points	PLA	Prior Learning Assessment
P	Pass	0 grade points	TO	Credit by Examination
XF	Failure academic integrity violation	0 grade points	TR	Transfer Credit
			W	Withdrew
			WIP	Work in Progress

Repeat Policy

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.

Attendance

Manhattan Tech faculty members are dedicated to students’ job-skill and employment preparation and believe that poor attendance may result in incomplete knowledge and skill development. Therefore, department instructors specifically address attendance guidelines for students enrolled in their program in their course syllabi or program handbook.

Students not attending class the first week of the semester will be administratively dropped. The instructor will notify the Registrar that the student should be administratively dropped, which will not reflect on the student’s transcript.

Attendance Policy for Online/Blended Courses

The full online attendance policy will be stated in your syllabus. In the event that any of the requirements below are not completed, your instructor will notify you by Manhattan Tech webmail and encourage withdrawal from the course. If the withdrawal process is not completed by the student, an “F” will be indicated on the transcript as the final grade for this course.

Within the first 5 business days of the course, the student must:

1. Log in. Your instructor can analyze your online activity and track how often you have logged in.
2. Read the syllabus and all policies.
3. Successfully complete the Computer Usage & Academic Honesty online quiz.
4. Complete assignments indicated by the instructor.

Students not completing the criteria above will be administratively dropped from the course. The instructor will notify both the student and the Registrar of the situation. Refer to the Faculty / Administrative Withdrawal Policy in this course catalog.

Drop or Withdrawal Policy

An official drop/withdrawal is the date a completed Drop/Add or Withdrawal Form is received by the Student Services Office. A student considering withdrawal should first meet with a Manhattan Tech advisor or instructor for clarification of 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 or Withdrawal form is completed and received by the Manhattan Tech office within 7 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 or Withdrawal form is completed and received by the Manhattan Tech office within 2 days of the start of the course. Days listed include weekends and holidays, 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 from a course prior to 75% of the course being completed for the semester (see the enrollment calendar for exact dates). If 75% of the course has been completed, an earned grade cannot be changed to a W, and the student will receive a transcript grade based on work completed relevant to the course requirements. 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 prior to drop/withdrawal of courses.

Faculty/Administrative Withdrawal Policy

If a student is absent during the official Drop or Withdrawal period from a class for five (5) class periods and has made no contact with any Manhattan Tech faculty/staff member, an instructor may request to withdraw the student from the course roster on the sixth day by providing a completed Drop or Withdrawal form and an explanation to the Dean of Academics or Vice President of Student Success. The official date for the Administrative Withdrawal will be the date the request is approved by the Dean of Academics or Vice President of Student Success and an Administrative Withdrawal (AW) will appear on the student's transcript for the course(s) the request references. If the excessive absenteeism occurs outside the official Drop or Withdrawal period, the student will be awarded the appropriate grade at the end of the course. The student will be responsible for any financial obligations as outlined in the Tuition Refund Policy. Any student who is withdrawn from a class roster due to excessive absenteeism may appeal to the Dean of Academic Affairs for reinstatement in the class.

Incomplete Grade

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.

Graduation Requirements

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

- Submit the Intent to Graduate form (available on MATC Online) and \$25 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.
- Fulfill all financial obligations to Manhattan Tech as well as Financial Aid Exit Counseling, if applicable.

The \$25 graduation fee is an institutional fee that covers administrative overhead costs related to graduation services. This fee is non-refundable and assessed to all graduating students.

Students are responsible for meeting, in full, 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 rests with the student. If a student does not complete the requirements for graduation, re-application and fee payment for graduation is required.

Students are responsible for satisfying all financial obligations at Manhattan Tech. Students not current with financial obligations may be dropped from classes at any time during the semester. Additionally, the College reserves the right to withhold copies of educational records, including official transcripts and diplomas, and/or refuse registration of students who owe balances to the institution or who have failed to meet all institutional requirements.

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

Academic Clemency

Academic Clemency is a policy that allows students to eliminate poor academic records, within certain parameters. To be eligible for Academic Clemency, 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. This policy refers to Manhattan Tech only. A student transferring to another institution will have to follow that institution's policy.

If Academic Clemency is granted, the student understands that:

- Academic Clemency will be granted only once while at Manhattan Tech.
- 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.
- 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. Phi Theta Kappa (PTK) or National Technical Honors Society (NTHS))
- 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.

Students must meet the following requirements before being granted this option:

1. Students wishing to petition for Academic Clemency must complete and submit a letter requesting Academic Clemency to the Vice President of Student Success. The letter should contain reasons why Academic Clemency is requested and include a list of courses the student wishes to remove from their cumulative GPA.
2. Academic Clemency will not be granted until a student has completed 12 semester credit hours at Manhattan Tech and met the requirements as stated in #1 above.
3. Upon receipt of the petition, the Academic Clemency Committee will review the student's transcript and current enrollment, and subsequently make a recommendation on clemency.
4. If Academic Clemency is granted, all previous course work will continue to appear on the transcript, however, the approved grades in those courses which have been granted Academic Clemency will not be included in the student's Manhattan Tech cumulative GPA.

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. To be eligible for Academic Fresh Start, a student must be returning to college after a four-year absence. This policy refers to Manhattan Tech only. A student transferring to another institution will follow that institution's policy.

If Fresh Start is granted, the student may resume their studies with the understanding that:

- Academic Fresh Start at Manhattan Tech may be granted only once.
- 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.
- 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.
- Students applying for admission under Academic Fresh Start must meet admission requirements established by Manhattan Tech.

Students must meet the following requirements before being granted this option:

1. Students must be separated from all institutions of higher education for at least four years.
2. Students wishing to petition for Academic Fresh Start must submit a formal letter to the Vice President of Student Success describing the reasons for the request and outlining an academic plan, which includes the declaration of an area of academic interest.
3. Upon submission of request, 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.

ACADEMIC EXPECTATIONS

Academic Honesty (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 on academic honesty. Manhattan Tech defines academic dishonesty as the following:

Cheating

- Giving or receiving unauthorized help on an individual or group assignment, paper, or exam
- Reusing an assignment written for another course without proper authorization
- Taking an exam for another student or having another student take an exam for a student
- Using unauthorized material on an exam
- Altering or fabricating academic data, records, or documents with the use of conventional or electronic devices

Plagiarizing

- Using others' ideas and/or words without correctly acknowledging the source
- Using copyrighted material without written permission of the copyright owners
- Taking credit for an assignment or research project done by another student
- Doing work or research for another student

Falsification and Fabrication

- Altering, counterfeiting, or inventing information or material presented in an academic evaluation activity
- Presenting data in a piece of work that was not gathered in accordance with guidelines defining appropriate methods for collecting or generating data
- Including a substantially inaccurate account of the method by which the data was gathered or collected

Abuse of Academic Materials

- Destroying, stealing, altering, or making inaccessible library, laboratory, or other academic resource materials, including computer data, or attempting to do so
- Stealing examinations or other course materials, or attempting to do so

Complicity in Academic Dishonesty

- Helping, or attempting to help, another to commit an act of academic dishonesty
- Providing material or information to another person with knowledge that the material or information will be used deceitfully in an academic evaluation activity
- Permitting one's own work to be submitted by another person as if it were that person's original work

Falsification of Records and Official Documents

- Altering documents affecting academic records
- Forging signature of authorization or falsifying information on any official academic document, including a permission form, a petition, or any other document designed to meet or exempt a student from an established academic regulation
- Failing to report previous academic records

Personal Misrepresentation and Proxy

- Participating in an academic evaluation activity in the place of another person, either before or after enrollment
- Assisting in any arrangement whereby any work, placement or proficiency tests, classroom performance, examination, or other academic evaluation activity is submitted or performed by a person other than the student in whose name the work is submitted or performed
- Having another person participate in an academic evaluation activity or evaluation in place of oneself

Bribes, Favors, Threats

- Bribing or attempting to bribe, promising favors to, or making threats against any person, with the intention of affecting a record of a grade or evaluation of academic performance
- Conspiring with another person who then performs one of these acts on one's behalf

Consequences for students in violation of the Manhattan Tech Academic Honesty Policy will be at the discretion of faculty and/or administration. Consequences include, but are not limited to:

- Oral or written reprimand
- An "F" or zero points given for the assignment, paper, or exam
- An "XF" or zero points given for the course ("XF" notation on transcript of academic dishonesty)
- Removal from the course and/or program
- Expulsion from the college

Any student accused of academic dishonesty may request written confirmation of the violation and consequence(s). If a claim of academic dishonesty is in dispute, the student may file a grievance, following the Student Complaint and Grievance Procedure.

General Complaint and Grievance Policy

Manhattan Tech administration, faculty, and staff attempt, in good faith, to resolve complaints and problems as they arise, in a timely manner, and at the lowest possible level. However, if a matter remains unresolved, the purpose of the grievance procedure is to provide a process for resolving complaints between students, faculty, and staff. These procedures apply to all complaints including but not limited to, academic issues, student services or administrative concerns, and working conditions. For matters involving any form of discrimination or harassment refer to Manhattan Tech Policies 3.7.1, 3.7.2, or 7.1.1.

Policy: Students and employees of Manhattan Area Technical College have the right to pursue timely, legitimate grievances against other members of the college community. Therefore, the administration shall establish, publish, and follow a procedure that delineates the rights and responsibilities of the aggrieved party and the college employee or student against whom a grievance may be lodged. The procedure shall provide for adequate time to file and investigate allegations, for individuals to present information or evidence in support of his/her positions, and for any party directly involved in a grievance to pursue an appeal of an adverse decision.

Students and employees of Manhattan Area Technical College may file a complaint without fear of reprisal. Any individual who supplies false or misleading information in conjunction with a complaint or anyone who attempts to harass, intimidate, or retaliate against an individual for filing a complaint or for providing information in connection with a complaint filed under this procedure will be subject to disciplinary action consistent with the provisions on the College's disciplinary policy. A copy of the complete policy and appropriate documentation may be obtained from the Student Services office.

Complaint Process *(must be completed prior to moving on to the Formal Grievance Process)*

Any individual who believes that a wrong has incurred, should try to resolve the problem through consultation with the individual(s) involved as soon as is reasonably possible. In most cases, the Complaint Process must be completed prior to moving on to the Formal Grievance Process. Exceptions must be approved by the appropriate Office of Primary Responsibility (OPR).

Formal Grievance Process

Once you have attempted to resolve your complaint through discussion, if you are not satisfied with the outcome, you may begin the formal grievance process. A formal grievance should be filed with the appropriate OPR not more than 21 days after the act(s) in question occurred. He/she may help you fill out the Formal Grievance questions and will determine if your concern is truly a grievance as defined by policy or not. If it is, he/she will begin the investigation process after you turn in the form. The OPR will have up to 10 working days to investigate and provide a written response. Please note, if your grievance is with your assigned OPR, you may meet with the College President to begin a formal grievance.

FINANCIAL OBLIGATIONS

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. Payment for classes is due no later than 10 business days after the start of the semester for fall and spring courses and 5 business days after the start of the semester for summer courses. Students who have not paid or arranged for payment through the Student Account Specialist by the payment due date will be locked out of and/or dropped from their courses. This does not apply to financial aid and VA education benefit recipients that have completed the entire financial aid or VA certification process. 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 the Office of Financial Aid 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.

Students may pay account balances using a credit or debit card via MATC Online, by logging in to their student portal, accessing account information from the student tab, and following the links. Direct questions regarding online payments to the Student Account Specialist at 785.320.4512 or StudentAccounts@manhattantech.edu.

To mail payments, students should remit check, money order, or cashier's check with full name and ID number to:

Manhattan Area Technical College
Attn: Student Account Specialist
3136 Dickens Avenue
Manhattan, KS 66503

Payment Plan

Manhattan Tech offers an online Self-Service Payment Plan as an option for paying tuition, student fees, course fees, and other related fees, in monthly installments when enrolled in non-continuing education courses for fall, spring, and/or summer.

No interest or finance charges are assessed; however, a \$15 non-refundable set-up fee is due with the first Plan 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. Students eligible for Self-Service Payment Plans will be able to access and select from available Plans via their student portal on MATC Online.

NOTE: OFFICIAL TRANSCRIPTS AND DIPLOMAS WILL 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 current and upcoming semesters, as well as prevents students from obtaining official transcript and/or diploma.
- Students are responsible for the full amount of tuition, fees, lab fees, and other charges on their account unless they officially drop within the refund period.
- Failure to attend classes or lack of attendance does not constitute an official drop. Students are still responsible for the balance due on their accounts.
- Final payments are due prior to the last day of the class in that semester.
- For any changes, students must contact the Student Account Specialist at 785-320-4512 or StudentAccounts@manhattantech.edu.
- Students will not be able to register in additional classes or upcoming semesters if any outstanding balances exist on their accounts. Accounts will be turned over to collections and/or the Kansas Setoff program if left unpaid at the end of the semester.
- Late fees of \$25 per occurrence will be assessed for payments not received by the due date.
- Accounts 60 days past due become immediately due in full, accounts 90 days past due will be turned over to collections.

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 current student address and 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. The student's records will be placed on hold until the returned-check fee and all outstanding Manhattan Tech financial obligations have been paid. 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 withdraw from 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 12 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 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 financial assistance will be subject to the refund policies of the agencies sponsoring the aid.

If the student chooses to withdraw 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.

Medical Withdrawal Refund Policy

Students may request a refund and a complete withdrawal from the College or all courses for medical purposes upon review of appropriate documentation from a physician by the Dean of Student Services. Known medical conditions, injuries, or illnesses that have not changed materially since the time of enrollment in the course/program of study are not eligible.

No refund of tuition and fees is due for any classes for which the student is awarded full credit. Students receiving financial aid or financial assistance will be subject to the refund policies of the agencies sponsoring the aid. Requests must be received within the same semester the student is requesting the medical withdrawal.

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 Financial Aid Office.

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, SEOG Grant, Work Study and 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 June 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. Applications received after June 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.

30-day Delay Policy

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. You should be prepared for this delay, including arrangements for living expenses. Book vouchers will be available for eligible students through the first week of the semester to assist with book costs. 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.

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 a 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)

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.

Withdrawing

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.

Satisfactory Academic Progress

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.

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 enrollment status and their Expected Family Contribution (EFC). The EFC is determined by the completion of the FAFSA. 2022-2023 awards range up to \$6,895 per academic year.

Federal Supplemental Educational Opportunity Grant (SEOG) – 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 and their parents. 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 contacting the Manhattan Tech Office of Financial Aid as well as completing an application on <https://studentaid.gov/app/launchPLUS.action?plusType=parentPlus>

Scholarships

Manhattan Tech has Scholarships available to students throughout the year. Refer to the Foundation Resources section for additional information.

Kansas Board of Regents Scholarships - An application for the following scholarships is available online at www.kansasregents.org/students/student_financial_aid/scholarships_and_grants. These scholarships have a Priority Deadline of May 1st. See the website for additional Kansas Board of Regents opportunities.

Kansas Ethnic Minority Scholarship - The Kansas Ethnic Minority Scholarship program is designed to assist financially needy, academically competitive students who are identified as members of any of the following ethnic/racial groups: African American; American Indian or Alaskan Native; Asian or Pacific Islander; or Hispanic.

Kansas Nursing Service Scholarship - The Kansas Nursing Service Scholarship requires an obligation to practice as an LPN or RN in Kansas and work for a sponsor. A sponsor means any adult care home, psychiatric hospital, medical care facility, home health agency, local health department or any state agency, which employs LPNs or RNs, licensed by the State of Kansas. The sponsor will provide partial scholarship funding and provide employment upon licensure of the recipient. If the sponsor is a mental health center or treatment facility, the sponsor does not share the cost of the scholarship assistance. The obligation for the scholarship is to work for the sponsor for one year for each year of the scholarship support received. The award is \$3,500 for Practical Nursing and \$4,500 for Associate Degree Nursing each school year.

Kansas Career Technical Workforce Grant - This \$500 - \$1000 scholarship is available to students enrolled in an eligible career technical education program operated by a designated Kansas educational institution that has been identified as offering a technical certificate or associate of applied science degree program in a high cost, high demand, or critical industry field. Preference in awarding goes to applicants with financial need.

Kansas Promise Scholarship - The Kansas Promise Scholarship provides scholarships for students to attend Kansas community and technical colleges in specific fields of study. Scholarships can up to the amount of tuition, required fees, books, and required materials. Students who receive the scholarship are obligated to live and work in Kansas for a minimum of two consecutive years or the scholarships converts into a loan.

Other Resources

Many of our students seek out and earn scholarships and/or other funding from a variety of local and national sources. Please note the following are only a short list of examples. Please refer to manhattantech.edu for the most current list.

- Veterans Education Benefits - The Kansas Commission on Veteran's Affairs has approved VA benefits for all Manhattan Tech programs. Veterans, reservists, and eligible dependents requesting benefits must complete the appropriate forms, which are available from the Department of Veterans Affairs at 888.442.4551, or online at <https://benefits.va.gov/gibill/>
- American Indian College Fund www.collegefund.org
- Fairy Godmothers Grant www.fgfund.org
- Guardian Grant www.gafund.org
- Global Automotive Aftermarket Symposium www.globalsymposium.org
- Hispanic Scholarship Fund www.hsf.net
- Horatio Alger Career <https://scholars.horatioalger.org/scholarships/about-our-scholarship-programs/technical/>
- Mike Rowe Works Foundation www.mikeroweworks.org/scholarship/
- United Negro College Fund www.uncf.org
- Community Organizations - (American Legion Auxiliary, Rotary Club, churches, community foundations, etc.)

Agencies

Heartland Works/WIOA - Programs for assistance with educational expenses for low income, single parent, dislocated worker, and dislocated homemaker. To apply contact one of the following offices:
Manhattan - 785.539.5691 Junction City - 785.762.8870

SER Corporation - Provides educational assistance for eligible students who have worked in feedlots, farms, ranches, grain elevators, green houses, or have done field work in the last two years and meet certain income guidelines. Applications are available through Manhattan Tech, or through the SER office in Hays, Kansas, 877.723.4016 www.sercorp.com

United Tribes of Kansas - Educational assistance programs for students of Native American descent. To apply, contact their office at 785.364.2234 or 785.595.329



MANHATTAN TECH FOUNDATION

MANHATTAN AREA TECHNICAL COLLEGE

Foundation Resources

Manhattan Area Technical College Foundation

The Manhattan Tech Foundation was incorporated in 2006 to promote private support of the College. It is a 501(c)3 non-profit entity and contributions to the Foundation are tax deductible. The Foundation is governed by a volunteer board of trustees, representative of citizens and businesses throughout the College's service area. The Manhattan Tech Foundation serves the entire service area.

Although the Foundation is organizationally and fiscally separate from Manhattan Tech, it utilizes the name and mission of the College and therefore operates only under the approval and sanction of the Manhattan Area Technical College Board of Directors.

Scholarship Opportunities

We currently have over 20 Scholarships available to students throughout the year. Scholarship applications will be due in September for Fall and February for Spring. A reminder email will be sent to all current students prior to the application deadline. We encourage High School students to apply as well. Thank you to our donors for providing resources to our students to further their education. Please refer to www.manhattantech.edu/foundation

Alumni

We'd like you to become an integral part of our College community, and we are eager to be your Lifelong Learning Partner!

Whether you graduated from the Manhattan Area Vocational – Technical School, Manhattan Area Technical Center, or Manhattan Area Technical College, you are one of this institution's cherished alumni.

Manhattan Area Technical College has been graduating technically skilled students since it first opened its doors in 1965. Our graduates are vital to the economic development of the surrounding area and the state of Kansas. They graduate prepared to enter the workforce and become leaders in their fields.

We encourage all alumni to continue their association with Manhattan Area Technical College through alumni activities, college service involvement, continuing education and just visiting campus to see what's happening.

Support Student Scholarships

Student Scholarships - Donors may designate their gift to student scholarships and may specify the award criteria, such as: undergraduate and/or continuing education student; full time and/or part time student; academic excellence; financial need; major; and profession to be pursued. Scholarships are vitally important in order to attract and retain increasing numbers of excellent and diverse students by providing much needed financial aid.

Naming Opportunities - Endowed academic funds may be named in honor of the Donors, or a name they designate, for example, in memory or in honor of loved ones.

Capital Improvements - Donors may designate their gift for the purchase of equipment, such as computers; or they may designate where it is to be invested, such as a library or technical lab. Capital improvements enhance teaching, learning, and administrative facilities. The needs are varied and include the library, computer laboratories, technical laboratories, classrooms, media centers, existing building renovation, and new facility construction.

Gift Amount - Unrestricted donations to the Annual Fund support capital improvements. \$100,000 is the minimum gift amount to establish an endowed capital improvement fund designated for a specific area, such as the library, nursing or computer laboratories.

General Fund - Gifts to the General Fund are used at the discretion of the President of Manhattan Area Technical College. Donations to the General Fund are vitally important for they give the President the opportunity to address unexpected and urgent expenses related to student education, academic programs, and/or community outreach.

Funding

Manhattan Area Technical College is funded in part by the Kansas Board of Regents and through the collection of tuition and fees. The College IS NOT funded by any state, county, or local taxes.

For additional information refer to www.manhattantech.edu/foundation

CONTINUING EDUCATION AND TRAINING

Advance your skills or develop your career within the health, trades, business, and other special interest areas. If you don't see a course currently available, Manhattan Tech can customize training for your organization. If you need space to hold your training, Manhattan Tech also rents classrooms, facilities, and computer labs as our schedule allows.

For class availability, [visit our website](#) or contact the Admissions Office at 785.587.2800 or admissions@manhattantech.edu

Allied Health

Manhattan Tech offers certification and recertification courses in the Allied Health professions of CNA, CMA, EMS, Phlebotomy, and IV Therapy. These courses are offered throughout the year at Manhattan Tech, and at applicable clinical sites where required. These courses can provide an entry level education into healthcare occupations or can keep current professionals updated on the skills they need to be successful.

Special Interest

Our region is growing and so is the demand for specialized skills! We are responsive to workforce trends and development of specialized programs allows us to cater to our region's unique industries.

- Command Spanish© Online
- ESL opportunities through the Adult Education program on site
- Geographic Information Systems (GIS)
- Biohazard Risk Reduction Training

Online Courses

Manhattan Tech encourages individuals to utilize Ed2Go – an industry leader in engaging online short courses covering topics such as test prep and web design. These video-based courses are very practical and cost-effective instructor-led training over a 6-week period.

For a full list of available courses, visit: www.ed2go.com/matech

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	Business Administrative Assistant	Information & Network Technology
Air Conditioning and Refrigeration	Construction Technology	Medical Laboratory Technology
Automotive Technology	Critical Environment Technologies	Nursing: Associate Degree
Biotechnology (<i>suspended</i>)	Electric Power & Distribution	Nursing: Practical
Business Accounting	Industrial Engineering Technology	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.



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

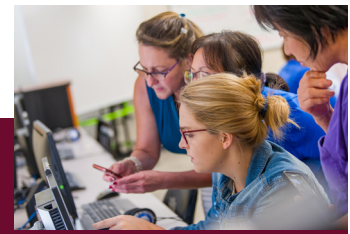
ESL RECREATIONAL STUDENTS

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.

This program aligns with the Kansas Board of Regents Curriculum.

ADMISSION REQUIREMENTS

- Complete online application
- Attend an orientation





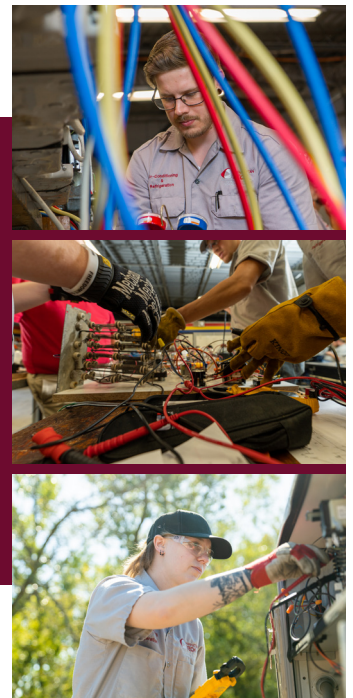
AIR CONDITIONING & REFRIGERATION

PROGRAM DESCRIPTION

This program is designed to prepare air conditioning and refrigeration 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 refrigeration and air conditioning systems. The program provides instruction in residential air conditioning, commercial air conditioning, heating systems, and commercial refrigeration. 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
- Industry Competency Exam Certification

The program outcomes align with the Kansas Board of Regents Curriculum

ADMISSION REQUIREMENTS

- College Placement Assessment Criteria
- Current unrestricted driver's license
- A Window's-based device is required for the program

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

Air Conditioning & Refrigeration Course Curriculum

Associates in Applied Science

62 Credit Hours

Technical Specialty Courses 34 Credit Hours

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

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

Suggested Technical Electives 13 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

† 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 on page 028 of the College Catalog. www.manhattantech.edu/catalog

Certificate B Requirements 40 Credit Hours

All Technical Specialty Courses	34	
COM 105 or COM 110	3	
MAT 101	Technical Mathematics I or higher	3



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) National Automotive Technicians Education Foundation (NATEF) 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 NATEF.
- 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 | • Electrical/Electronic Systems |
| • Suspension & Steering | • Engine Performance |
| • Automatic Transmission & Transaxle | • Engine Repair |
| • Manual Drive Train & Axels | • Heating & Air Conditioning |

Accreditation:



Education Foundation

ASE Education Foundation

1503 Edwards Ferry Rd., NE Ste 401
Leesburg, VA 20176

703.669.6650 info@ASEducationFoundation.org



ADMISSION REQUIREMENTS

- College Placement Assessment Criteria
- Current unrestricted driver's license
- A Window's-based device is required for the program

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 Specialty Courses

51 Credit Hours

COURSE NO.	COURSE TITLE			CREDITS
Year 1 Fall Semester				
AMT 109	Intro to Automotive Technology		<i>Cert C</i>	2
AMT 111	Electrical 1	<i>Cert A</i>	<i>Cert C</i>	3
AMT 116	Electrical 2		<i>Cert C</i>	2
AMT 121	Engine Performance 1	<i>Cert A</i>	<i>Cert C</i>	3
AMT 125	Engine Performance 2		<i>Cert C</i>	4
Year 1 Spring Semester				
AMT 149	Suspension & Steering 1	<i>Cert A</i>	<i>Cert C</i>	3
AMT 152	Suspension & Steering 2		<i>Cert C</i>	2
AMT 170	Brakes 1	<i>Cert A</i>	<i>Cert C</i>	3
AMT 171	Brakes 2		<i>Cert C</i>	2
AMT 180	Electrical 3		<i>Cert C</i>	3
Year 2 Fall Semester				
AMT 200	Automatic Transmissions & Transaxles 1	<i>Cert A</i>	<i>Cert C</i>	3
AMT 201	Automatic Transmissions & Transaxles 2		<i>Cert C</i>	3
AMT 205	Manual Transmissions & Transaxles		<i>Cert C</i>	4
AMT 221	Engine Repair 1		<i>Cert C</i>	2
Year 2 Spring Semester				
AMT 250	Engine Repair 2		<i>Cert C</i>	3
AMT 265	Engine Performance 3		<i>Cert C</i>	3
AMT 270	Electrical 4		<i>Cert C</i>	2
AMT 275	Heating & Air Conditioning	<i>Cert A</i>	<i>Cert C</i>	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 on page 028 of the College Catalog. www.manhattantech.edu/catalog

Certificate A Requirements

19 Credit Hours

Technical Specialty courses marked with "**Cert A**" (*The 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

There are two Biotechnology programs: The Advanced Biotechnology Certificate (ABC), for applicants who hold a science degree, and the Biotechnology Laboratory Technician (BLT), which is an Associate of Applied Science degree. Both programs are 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 Director of Biosciences.**

BIOTECHNOLOGY LABORATORY TECHNICIAN AAS:

This Biotechnology Laboratory Technology curriculum prepares students who do not have a science background to acquire and apply scientific principles and technical skills in support of a variety of laboratories in the biotechnology arena. 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 research, health and medical, industrial and environmental, food and agriculture, biodiesel fuels, as well as other emerging industries in the growing field of biotechnology.



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 Director of Bioscience

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

Associates in Applied Science 65 Credit Hours

Pre-Requisite •• Lab Required			18 Credit Hours
COURSE NO.	COURSE TITLE		CREDITS
BSC 110	Biology ••		5
BSC 205	Microbiology ••		5
CHM 110	Chemistry ••		5
MAT 110	Intermediate Algebra or higher		3

Science courses must have been taken within 5 years of acceptance into program

Technical Specialty Courses			33 Credit Hours
COURSE NO.	COURSE TITLE		CREDITS
BIO 210	Laboratory Operations ••		4
BIO 225	Laboratory Safety ••		2
BIO 226	Laboratory Safety Lab		1
BIO 250	Biotechnology Techniques ••		3
BIO 251	Biotechnology Techniques Lab		2
BIO 260	Molecular Techniques ••		2
BIO 261	Molecular Techniques Lab		3
BIO 270	Cell Culture Techniques ••		2
BIO 271	Cell Culture Techniques Lab		3
BIO 280	Bio manufacturing Techniques ••		2
BIO 281	Bio manufacturing Techniques Lab		3
BIO 290	Biotechnology Internship		5
EMP 1901	Global Employment Standards		1

•• Online Course

Suggested Technical Electives			5 Credit Hours
COURSE NO.	COURSE TITLE		CREDITS
BIO 230	Biohazardous Risk Reduction		2
CIS 116	Database Management		2
CIS 100	Software Applications		3
CRT 100	Principles of Information Assurance		1
ALH 101	Phlebotomy		3
NTR 105	Nutrition		3
WLD 110	Welding Metallurgy		1
MAT 145	Elementary Statistics		3

† Additional Technical Elective options are available; see an advisor

General Education Requirements			9 Credit Hours
COURSE NO.	COURSE TITLE		CREDITS
English			3 Required
COM 105	English Composition I		3
Additional General Education			6 Required

Full general education elective list is located in [College Catalog](#)

Certificate B Requirements 32 Credit Hours

Technical Specialty Courses			32 Credit Hours
COURSE NO.	COURSE TITLE		CREDITS
Fall Semester			
BIO 210	Laboratory Operations ••		4
BIO 225	Laboratory Safety ••		2
BIO 226	Laboratory Safety Lab		1
BIO 250	Biotechnology Techniques ••		3
BIO 251	Biotechnology Techniques Lab		2
Spring Semester			
BIO 260	Molecular Techniques ••		2
BIO 261	Molecular Techniques Lab		3
BIO 270	Cell Culture Techniques ••		2
BIO 271	Cell Culture Techniques Lab		3
Summer Semester			
BIO 280	Bio manufacturing Techniques ••		2
BIO 281	Bio manufacturing Techniques Lab		3
BIO 290	Biotechnology Internship		5

•• Online Course



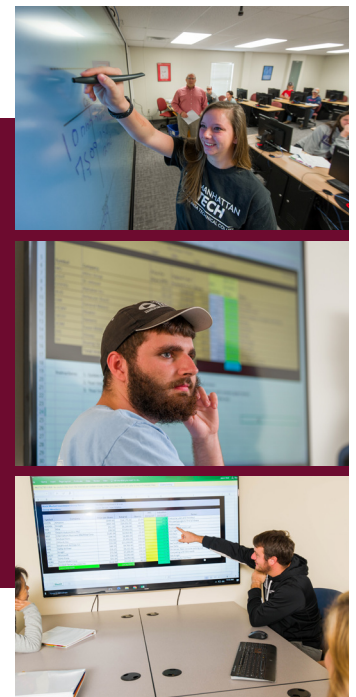
BUSINESS ACCOUNTING

PROGRAM DESCRIPTION

The Business Administration 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. The U.S. Bureau of Labor Statistics projects that employment of bookkeeping, accounting, and auditing clerks will grow 11 percent from 2012 to 2022. 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

Suggested Technical Specialty Courses *** Required*

39 Credit Hours

COURSE NO.		COURSE TITLE		CREDITS
ACC 100	** or	Business Accounting	<i>Cert B</i>	3
ACC 120		Financial Accounting	<i>Cert B</i>	
ACC 125		Computerized Accounting	<i>Cert B</i>	3
ACC 130		Payroll Accounting	<i>Cert B</i>	3
ACC 140		Managerial Accounting	<i>Cert B</i>	3
ACC 270		Tax Accounting	<i>Cert B</i>	3
BUS 111		Personal Finance	<i>Cert B</i>	3
BUS 120	**	Business English	<i>Cert B</i>	3
BUS 125	**	Business Communication	<i>Cert B</i>	3
BUS 126	**	Introduction to Business		3
BUS 185	**	Business Ethics & Human Relations	<i>Cert B</i>	3
BUS 290		Business Capstone		1
CIS 100	**	Software Applications	<i>Cert B</i>	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

† 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	3
Math		3 Required
MAT 110	Intermediate Algebra or higher	3
Additional General Education Courses		9 Required

Full general education elective list is located on page 028 of the College Catalog. www.manhattantech.edu/catalog

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 Administration 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

Suggested Technical Specialty Courses •• Required

40 Credit Hours

COURSE NO.		COURSE TITLE		CREDITS
ACC 100	•• or	Business Accounting	Cert B	3
ACC 120		Financial Accounting		
BUS 111	or	Personal Finance	Cert B	3
BUS 255		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

8 Credit Hours

COURSE NO.		COURSE TITLE		CREDITS
ACC 100		Business Accounting		3
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

† 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		3
Math				3 Required
MAT 110		Intermediate Algebra or higher		3
Additional General Education Courses				9 Required

Full general education elective list is located on page 028 of the College Catalog. www.manhattantech.edu/catalog

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 cabinets. 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.

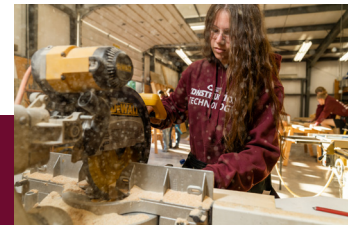
CERTIFICATIONS:

- OSHA 30
- NCCER Core
- NCCER Carpentry Level 1
- NCCER Carpentry Level 2

Accreditation:



National Center for Construction Education & Research (NCCER)
 13614 Progress Blvd.
 Alachua, FL 23615
 386.518.6500



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.

Construction Technology Course Curriculum

Associates in Applied Science

63 Credit Hours

Technical Specialty Courses

36 Credit Hours

COURSE NO.	COURSE TITLE			CREDITS
Fall Semester				
BTR 104	OSHA 30 Construction Industry Certification	<i>Cert A</i>	<i>Cert B</i>	2
BTR 106	Introductory Craft Skills	<i>Cert A</i>	<i>Cert B</i>	3
BTR 116	Carpentry Basics	<i>Cert A</i>	<i>Cert B</i>	4
BTR 121	Floors, Walls & Ceiling Framing	<i>Cert A</i>	<i>Cert B</i>	4
BTR 131	Roof Framing	<i>Cert A</i>	<i>Cert B</i>	3
BTR 134	Workplace Skills		<i>Cert B</i>	2
Spring Semester				
BTR 136	Windows, Doors & Stairs	<i>Cert A</i>	<i>Cert B</i>	3
BTR 141	Cabinet Installation/Kitchen Design		<i>Cert B</i>	3
BTR 155	Drywall, Installation & Finishing		<i>Cert B</i>	3
BTR 160	Interior Finish Carpentry		<i>Cert B</i>	5
BTR 175	NCCER Carpentry Level 2		<i>Cert B</i>	4

Suggested Technical Electives

12 Credit Hours

COURSE NO.	COURSE TITLE	CREDITS
ACC 100	Business Accounting	3
BTR 102	Safety Orientation (OSHA 10)	1
BUS 111	Personal Finance	3
BUS 126	Introduction to Business	3
BUS 185	Business Ethics & Human Relations	3
BUS 255	Principles of Management	3

† 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		9 required

Full general education elective list is located on page 028 of the College Catalog. www.manhattantech.edu/catalog

Certificate A Requirements

19 Credit Hours

Technical Specialty courses marked with "*Cert A*"

Certificate B Requirements

39 Credit Hours

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



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.

This program aligns with the Kansas Board of Regents Curriculum.

ADMISSION REQUIREMENTS

- Successful completion of a high-school degree, including coursework in algebra.
- Previous computer usage skills, including navigation in Microsoft Windows.
- Use of a computer with a Windows operating system installed (Windows 10 or above).



Critical Environment Technologies Course Curriculum

Associates in Applied Science

62 Credit Hours

Technical Specialty Courses 42 Credit Hours

COURSE NO.	COURSE TITLE	CREDITS
Fall Semester - Year 1		
CET 101	OSHA 30 General Industry (CET)	2
BIO 230	Biohazards Risk Reduction	2
IET 101	Fundamentals of Electricity AC/DC	3
CET 123	Building Systems & CET: Security	1
CET 124	Building Systems & CET: Plumbing & Waste Neutralization	2
CET 122	Building Systems & CET: HVAC	2
CET 121	Building Systems & CET: Electrical and Lighting	2
Spring Semester - Year 1		
IET 220	Industrial Motor Controls	4
CET 221	Basic Controls	5
CET 222	Building Automation System Controls and Programming	3
CRT 165	Modern Information Technology Networks	3
Fall Semester - Year 2		
CET 223	Applied Building System Controls	5
CET 231	Building Automation Networking and BACnet	2
Spring Semester - Year 2		
CET 241	Airflow in Commercial and Critical Environments	3
CET 299	CET Capstone Project	3

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
CI1 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 on page 028 of the College Catalog. www.manhattantech.edu/catalog



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 American Red Cross 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 lightning 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 a 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 Specialty Courses

48 Credit Hours

COURSE NO.	COURSE TITLE		CREDITS
Spring Semester			
EPD 101	OSHA 10 **	<i>Cert C</i>	1
EPD 103	Basic Electricity	<i>Cert C</i>	1
EPD 105	Climbing Skills	<i>Cert C</i>	4
EPD 110	Pole Framing & Construction Specifications	<i>Cert C</i>	4
EPD 120	Equipment Operation	<i>Cert C</i>	3
EPD 125	Setting and Replacing Poles	<i>Cert C</i>	1
EPD 1376	Basic Transformer Theory and Transformer Installation	<i>Cert C</i>	6

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

Summer Semester

EPD 199	Utility Internship	<i>Cert C</i>	8
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Fall Semester

EPD 140	Service Installation & Metering	<i>Cert C</i>	4
EPD 145	Conductor Installation & Repair	<i>Cert C</i>	4
EPD 150	Rubber Gloving & Hot Sticking Methods	<i>Cert C</i>	3
EPD 160	Underground Distribution	<i>Cert C</i>	3
EPD 170	Fusing & System Coordination	<i>Cert C</i>	1
EPD 180	Substations & Voltage Regulation	<i>Cert C</i>	4
EMP 1901	Global Employment Standards	<i>Cert C</i>	1

General Education Requirements

15 Credit Hours

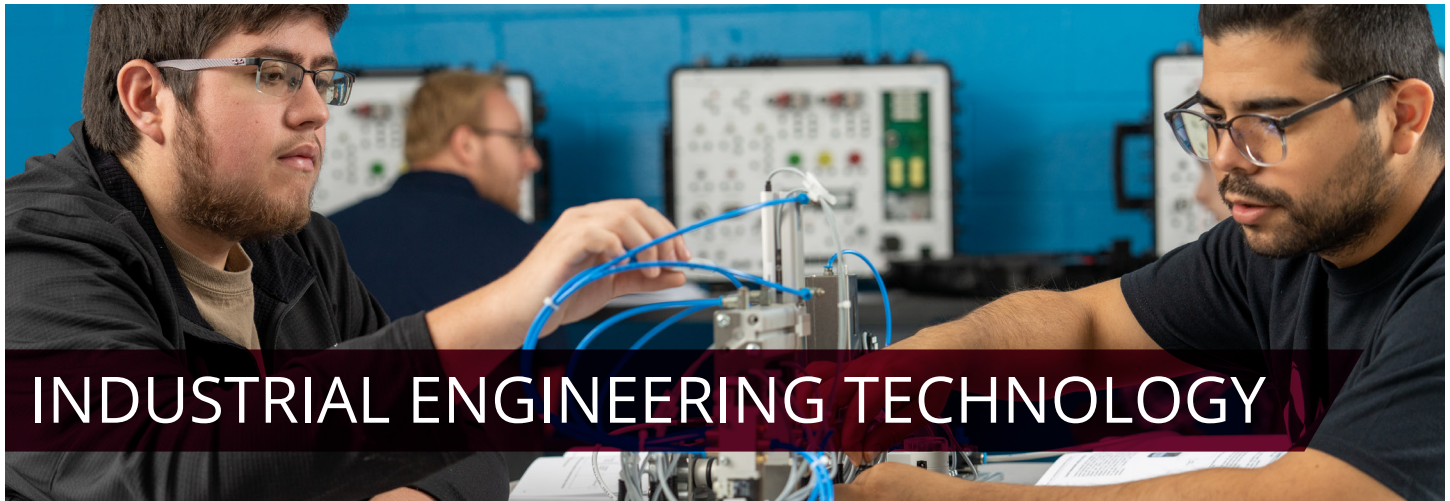
COURSE NO.	COURSE TITLE	CREDITS
English		
3 required		
COM 105	English Composition I	3
COM 110	Technical Writing	3
Math		
3 required		
MAT 109	Technical Mathematics II	3
MAT 110	Intermediate Algebra or higher	3
Additional General Education		
9 required		

Full general education elective list is located on page 028 of the College Catalog. www.manhattantech.edu/catalog

Certificate C Requirements

51 Credit Hours

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



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

61 Credit Hours

Technical Specialty Courses 37 Credit Hours

COURSE NO.	COURSE TITLE		CREDITS
Fall Semester - Year 1			
IET 100	OSHA 30 General Industry (CET)	<i>Cert B</i>	2
IET 101	Fundamentals of Electricity AC/DC	<i>Cert B</i>	3
IET 102	Fluid Power 1	<i>Cert B</i>	3
IET 104	Mechatronics 1	<i>Cert B</i>	3
Spring Semester - Year 1			
IET 103	Fluid Power 2	<i>Cert B</i>	3
IET 121	Basic Controls	<i>Cert B</i>	5
IET 105	Mechanical Drive 1	<i>Cert B</i>	3
Fall Semester - Year 2			
IET 210	Mechanical Drive 2	<i>Cert B</i>	3
IET 220	Industrial Motor Controls	<i>Cert B</i>	4
Spring Semester - Year 2			
IET 230	Advanced Manufacturing and Process Logistics	<i>Cert B</i>	3
IET 240	Applied Industry 4.0	<i>Cert B</i>	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
CI1 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 in [College Catalog](#)

Certificate B Requirements 37 Credit Hours

Technical Specialty courses marked with "*Cert B*"



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

Information & Network Technology Course Curriculum

Associates in Applied Science

63 Credit Hours

Technical Specialty Courses

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 215	Database Systems		3
CRT 282	Network Security		3
CRT 295	INT Capstone		3

Suggested Technical Electives

5 Credit Hours

COURSE NO.	COURSE TITLE	CREDITS
BUS 125	Business Communication	3
BUS 126 **	Introduction to Business	3
CIS 116	Spreadsheet Management	2
CIS 126	Database Management	2
CIS 150	Web Page Applications	3
CRT 165 ^	Modern Information Technology Networks	3
CRT 231	Internet of Things Fundamentals and Security	3
CRT 281 ^	Cloud Computing Fundamentals	3

** required ^ Maps to Network+ Certification

† 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 9 required		

Full general education elective list is located on page 028 of the College Catalog.

Certificate C Requirements

52 Credit Hours

COURSE NO.	COURSE TITLE	CREDITS
All Technical Specialty Courses		43
Technical Electives		6 required
BUS 125	Business Communication	3
BUS 126	Introduction to Business	3
General Education Requirements		3 required
MAT 101	Technical Mathematics I	3
MAT 108	Beginning Algebra	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
5600 N. River Road, Suite 72
Rosemont, IL 60018 773.714.8880



ADMISSION REQUIREMENTS

- Successful completion of prerequisites
- Submit official transcript(s) to Manhattan Tech
- Turn in Medical Laboratory Technology Program Application and Essential Functions Form
- Schedule an interview with the Manhattan Tech MLT Program Coordinator
- Complete background check and proof of immunizations

Medical Laboratory Technology Course Curriculum

Associates in Applied Science

68 Credit Hours

Pre-requisites

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 Immunochemistry	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.

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.
- Manage care and provide leadership to meet client needs using available resources and current technology.
- Generate teaching and learning processes to promote and maintain health and reduce risks for a global population.
- Demonstrate effective communication methods to manage client needs and to interact with other health care team members.

Upon completion of the program, students are prepared to take the NCLEX-RN exam.

END OF PROGRAM STUDENT LEARNING OUTCOMES

- Illustrate and model the ability to think critically and make safe and effective clinical judgments using the nursing process.
- Identify and model caring behaviors in practicing the art and science of nursing within a diverse population.
- Identify and model effective communication and collaborative processes with clients and members of the interdisciplinary healthcare team.
- Identify and model patient care that implements professional standards and scope of practice within legal, ethical, and agency policies.
- Identify and model the care and leadership needed to meet client needs using available resources and current technology.
- Design and implement the teaching and learning processes needed to promote and maintain health and to reduce risks for a variety of clients.

The program outcomes align 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

Criteria updated on an annual basis: Please refer to the Associate Degree Nursing Admissions Packet at manhattantech.edu for detailed information.

- Successful completion of prerequisites (*listed on next page*)
- Appropriate assessment scores
- Official copies of all high school and postsecondary education transcripts
- Submission of an Admissions Portfolio containing all admission requirements
- A maximum of 10 credit hours from a PN certificate program will be transcribed to meet the AAS degree requirement
- A Windows-based device is required for the program



Associate Degree Nursing Course Curriculum

Associates in Applied Science

62 Credit Hours

Pre-requisites (2.0 cumulative GPA required)

28 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	Public Speaking	3
COM 116	or Interpersonal Communications	3
MAT 110	Intermediate Algebra	3
NTR 105	Nutrition	3
PSY 100	General Psychology	3
PSY 125	Human Growth and Development	3
	Practical Nursing Credit Hours	10

•• Lab Required

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 patient's 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

- 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.
- Collaborate with the client and members of the interprofessional health care team to promote continuity of client care and shared decision-making.
- Use current evidence as a basis for nursing practice.
- Use information and client care technology to support the delivery of safe, quality client care.
- Participate in quality improvement activities assessing their effect on client outcomes.
- Provide an environment that is safe and reduces risk of harm for clients, self, and others.
- Demonstrate accountability for client care that incorporates legal and ethical principles, regulatory guidelines, and standards of nursing practice.
- 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

- Successful completion of prerequisites
- Certified Nursing Assistant Certificate (CNA)
- Appropriate assessment scores
- Official copies of all high school and postsecondary education transcripts
- Submission of an Admissions Portfolio that contains all admission requirements
- A Windows-based device is required for the program

Practical Nursing Course Curriculum

Certificate C

46 Credit Hours

Pre-requisites

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 Specialty Courses

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 on the website.



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, 9.1.1, 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 Specification Tests: 1F GMAW, 1F SMAW, 2F GMAW, 2F SMAW, 3F SMAW, 3F GMAW, 1G GMAW, 1G SMAW, 2G GMAW, 2G SMAW, 3G SMAW, 3G GMAW

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 Specialty Courses

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

42 Credit Hours

COURSE NO.	COURSE TITLE			CREDITS
Fall Semester				
WLD 1001	Welding Safety ••	<i>Cert A</i>	<i>Cert B</i>	1
WLD 1010	OSHA 10 ••	<i>Cert A</i>	<i>Cert B</i>	1
WLD 110	Welding Metallurgy	<i>Cert A</i>	<i>Cert B</i>	1
WLD 1153	Blueprint Reading	<i>Cert A</i>	<i>Cert B</i>	3
WLD 118	Discontinuities and Defects	<i>Cert A</i>	<i>Cert B</i>	1
WLD 1303	Cutting Processes	<i>Cert A</i>	<i>Cert B</i>	3
WLD 140	Intro to SMAW	<i>Cert A</i>	<i>Cert B</i>	3
WLD 150	Intro to GMAW	<i>Cert A</i>	<i>Cert B</i>	3
WLD 171	Intro to GTAW	<i>Cert A</i>	<i>Cert B</i>	3
EMP 1901	Global Employment Standards		<i>Cert B</i>	1

Spring Semester

WLD 116	Fabrication		<i>Cert B</i>	1
WLD 145	SMAW Advanced Structural		<i>Cert B</i>	4
WLD 155	GMAW Advanced		<i>Cert B</i>	4
WLD 1604	Flux Cored Arc Welding Structural		<i>Cert B</i>	4
WLD 165	SMAW/GTAW Pipe Welding		<i>Cert B</i>	3
WLD 1764	GTAW Advanced		<i>Cert B</i>	4
WLD 190	Welding Project Management		<i>Cert B</i>	2
or				
WLD 199	Occupational Work Experience			

Suggested Technical Electives

† Additional Technical Elective options are available; see an advisor

6 Credit Hours

COURSE NO.	COURSE TITLE	SEMESTER	CREDITS
ACC 100	Business Accounting	Fall/Spring	3
ACC 120	Financial Accounting	Fall	3
BUS 111	Personal Finance	Fall/Spring	3
BUS 126	Introduction to Business	Fall/Spring	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 on page 028 of the College Catalog. www.manhattantech.edu/catalog

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

ƒ ACC 100	Business Accounting		3 SCH
<p>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.</p> <p>Prerequisite(s): None</p>			
ƒ ACC 120	Financial Accounting	‡ SWT ACC1010	3 SCH
<p>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.</p> <p>Prerequisite(s): ACC100 with a grade of C or higher or successful completion of a basic accounting course at the high school or college level.</p>			
ƒ ACC 125	Computerized Accounting		3 SCH
<p>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.</p> <p>Prerequisite(s): ACC100 or higher with a grade of C or higher.</p>			
ƒ ACC 130	Payroll Accounting		3 SCH
<p>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.</p> <p>Prerequisite(s): ACC100 or higher with a grade of C or higher.</p>			
ƒ ACC 140	Managerial Accounting	‡ SWT ACC2010	3 SCH
<p>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.</p> <p>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.</p>			
ƒ ACC 270	Tax Accounting		3 SCH
<p>This course is a study and preparation of income tax returns and a study of tax regulations and forms.</p> <p>Prerequisite(s): None</p>			
ALH 051	Certified Nurse Aide Update		
<p>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.</p> <p>Prerequisite(s): Kansas CNA license, inactive status.</p>			

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Course Descriptions

ALH 060	Certified Medication Aide	3 SCH
<p>The course is designed around the Kansas State Medication Aide Curriculum, which trains the student to pass 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.</p> <p>Prerequisite(s): ALH 100 CNA or equivalent and be current on the Kansas CNA Registry.</p>		
ALH 061	CMA Update	
<p>This course follows guidelines specified by the Kansas Department of Health and Environment (KDHE) for required continuing education and recertification for certified medication aides.</p> <p>Prerequisite(s): CMA credential</p>		
ALH 100	Certified Nurse Assistant	5 SCH
<p>The course is designed to provide the student with the knowledge and skills necessary to perform basic health care services. It prepares the student to function in the role of nurse assistant under the supervision of a Registered Nurse or Licensed Practical Nurse. This course is designed to meet the curriculum requirements of the Kansas Department of Aging and Disability (KDADS). Satisfactory completion of the course makes the student eligible to take the State CNA certification. 50 clock hours lecture/ 50 hours clinical/lab.</p> <p>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.</p>		
ALH 101	Phlebotomy	3 SCH
<p>This course will enable the student to correctly and safely perform phlebotomy.</p> <p>Prerequisite(s): None</p>		
ALH 1202	Phlebotomy Clinical	2 SCH
<p>This internship allows students to gain real job experience as a phlebotomist and complete requirements for 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.</p> <p>Prerequisite(s): ALH 101</p>		
AMT 109	Intro to Automotive Technology	2 SCH
<p>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.</p> <p>Prerequisite(s): None</p>		
AMT 111	Electrical 1	3 SCH
<p>This is an introductory course to automotive electrical systems diagnostics and service. Topics covered are the principles of basic electrical circuits, battery and starting circuits, and an introduction to basic automotive electronics. Diagnosis, testing and unit repair for each circuit are also taught.</p> <p>Prerequisite(s): None</p>		
AMT 116	Electrical 2	2 SCH
<p>This advanced course builds on the material learned in AMT 111 Electrical Systems I. Subjects include charging and lighting, along with testing, diagnosis and unit repair for each circuit.</p> <p>Prerequisite(s): AMT111 with a grade of C or better</p>		

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Course Descriptions

ƒ AMT 121	Engine Performance 1	3 SCH
<p>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.</p> <p>Prerequisite(s): AMT116 with a grade of C or higher</p>		
ƒ AMT 125	Engine Performance 2	4 SCH
<p>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.</p> <p>Prerequisite(s): AMT121 with a grade of C or higher, or permission of instructor</p>		
ƒ AMT 149	Suspension & Steering 1	3 SCH
<p>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.</p> <p>Prerequisite(s): AMT111 with a grade of C or higher, or permission of instructor</p>		
ƒ AMT 152	Suspension & Steering 2	2 SCH
<p>This course builds upon the material learned in AMT 151 Steering & Suspension I. Areas taught are steering and suspension geometry, diagnosis of tire wear, wheel alignment, and tire replacement/ repair/balancing.</p> <p>Prerequisite(s): AMT149 with a grade of C or higher, or permission of instructor</p>		
ƒ AMT 170	Brakes 1	3 SCH
<p>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.</p> <p>Prerequisite(s): AMT111 with a grade of C or higher, or permission of instructor</p>		
ƒ AMT 171	Brakes 2	2 SCH
<p>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</p> <p>Prerequisite(s): AMT170 with a grade of C or higher, or permission of instructor</p>		
ƒ AMT 180	Electrical 3	3 SCH
<p>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.</p> <p>Prerequisite(s): AMT116 with a grade of C or higher, or permission of instructor</p>		
ƒ AMT 200	Automatic Transmissions & Transaxles 1	3 SCH
<p>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.</p> <p>Prerequisite(s): AMT180 with a grade of C or higher, or permission of instructor</p>		

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Course Descriptions

ƒ AMT 201	Automatic Transmissions & Transaxles 2	3 SCH
<p>This course builds upon the material learned in AMT200 Automatic Transmissions and Transaxles I. Areas studied include automotive transmission/transaxle diagnosis, repair and overhaul.</p> <p>Prerequisite(s): AMT200 with a grade of C or higher, or permission of instructor</p>		
ƒ AMT 205	Manual Transmissions & Transaxles	4 SCH
<p>The topics addressed are 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.</p> <p>Prerequisite(s): AMT180 with a grade of C or higher, or permission of instructor</p>		
ƒ AMT 221	Engine Repair 1	2 SCH
<p>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.</p> <p>Prerequisite(s): AMT125 and AMT180 with a grade of C or higher, or permission of instructor</p>		
ƒ AMT 250	Engine Repair 2	3 SCH
<p>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.</p> <p>Prerequisite(s): AMT221 with a grade of C or higher, or permission of instructor</p>		
ƒ AMT 265	Engine Performance 3	3 SCH
<p>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.</p> <p>Prerequisite(s): AMT125 with a grade of C or higher, or permission of instructor</p>		
ƒ AMT 270	Electrical 4	2 SCH
<p>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.</p> <p>Prerequisite(s): AMT180 with a grade of C or higher, or permission of instructor</p>		
ƒ AMT 275	Heating & Air Conditioning	4 SCH
<p>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.</p> <p>Prerequisite(s): AMT270 with a grade of C or higher, or permission of instructor</p>		
ƒ BIO 023	Biohazardous Risk Reduction	2 SCH
<p>This course is designed to prepare new facility staff with the basic of biosafety for work in all levels of containment laboratories or environments and includes a mixture of practical and classroom experiences. Students satisfactorily completing the assessment will receive a certificate of completion that identifies biosafety skills demonstrated.</p> <p>Prerequisite(s): Permission of the Director of Bioscience</p>		

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Course Descriptions

ƒ BIO 210	Laboratory Operations	4 SCH
<p>This covers three operational areas of study of laboratory work—technical procedural writing, laboratory calculations, and regulatory issues.</p> <p>Prerequisite(s): Admission to the Biotechnology program or approval of the Director of Bioscience</p>		
ƒ BIO 225	Laboratory Safety	2 SCH
<p>This course will enable the student to understand safety in the laboratory, including the secure use and handling of biological and chemical materials. Topics covered will include safety procedures in Biosafety Level 2 labs, safety with infectious disease, safe handling of hazardous biological and chemical materials, and discussion of safe handling of radiological materials and safe practices with small animals in laboratory settings.</p> <p>Prerequisite(s): Admission to the Biotechnology program or approval of the Director of Bioscience</p>		
ƒ BIO 226	Laboratory Safety Lab	1 SCH
<p>This course will enable the student to develop what is known in industry as GLP or defined Good Laboratory Practice. This will include the secure use and handling of biological and chemical and radiological materials in a laboratory setting. Topics covered will include safety procedures in Biosafety Level 2 labs, safety with infectious disease, safe handling of hazardous biological and chemical materials and safe practices with small animals in a laboratory setting.</p> <p>Prerequisite(s): Admission to the Biotechnology program or approval of the Director of Bioscience</p>		
ƒ BIO 230	Biohazardous Risk Reduction	2 SCH
<p>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.</p> <p>Prerequisite(s): Permission of the Director of Bioscience</p>		
ƒ BIO 255	Biotechnology Techniques	5 SCH
<p>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.</p> <p>Prerequisite(s): Admission to the Biotechnology Program or with the permission of the instructor.</p>		
ƒ BIO 265	Molecular and Cellular Techniques	5 SCH
<p>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.</p> <p>Prerequisite(s): Admission to the Biotechnology Program or with the permission of the instructor.</p>		
ƒ BIO 270	Cell Culture Techniques	2 SCH
<p>This course introduces students to the basic techniques used in culturing cells. Topics covered include sterile and aseptic technique, media preparation, cell count and viability, cryopreservation, subculturing, and research applications using cell cultures.</p> <p>Prerequisite(s): Admission to the Biotechnology program</p>		

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Course Descriptions

ƒ BIO 271	Cell Culture Techniques Lab		3 SCH
<p>This course introduces students to the basic techniques used in culturing cells. Topics covered include sterile and aseptic technique, media preparation, cell count and viability, cryopreservation, subculturing, and research applications using cell cultures.</p> <p>Prerequisite(s): Admission to the Biotechnology program</p>			
ƒ BIO 285	Protein Techniques		5 SCH
<p>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.</p> <p>Prerequisite(s): Admission to the Biotechnology Program or with the permission of the instructor.</p>			
ƒ BIO 292	Biotechnology Shadowing		1 SCH
<p>This shadowing experience allows students exposure in real biological and chemical laboratories. They will also develop skills relevant to gaining employment in these industries.</p> <p>Prerequisite(s): Admission to the Biotechnology Program or with the permission of the instructor.</p>			
BSC 110	Biology	† SWT BIO1010	5 SCH
<p>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.</p> <p><i>BSC110A and BSC110B are equivalent to SWT BIO1010</i></p> <p>Prerequisite(s): None</p>			
BSC 125	Anatomy and Physiology	† SWT BIO2020	5 SCH
<p>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.</p> <p><i>BSC125A and BSC125B are equivalent to SWT BIO2020</i></p> <p>Prerequisite(s): BSC 110 with a "C" or higher or High School Anatomy & Physiology within five years with a "C" or higher and permission of instructor.</p>			
BSC 205	Microbiology	† SWT BIO2040	5 SCH
<p>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.</p> <p>Prerequisite(s): BSC 110 with a "C" or higher or permission of the instructor.</p>			

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Course Descriptions

† BTR 102	Safety Orientation (OSHA 10)	1 SCH
<p>This course covers the tools and materials required for Building Trades. 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.</p> <p>Prerequisite(s): None</p>		
† BTR 104	OSHA 30 Construction Industry Certification	2 SCH
<p>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.</p> <p>Prerequisite(s): None</p>		
† BTR 106	Introductory Craft Skills	3 SCH
<p>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.</p> <p>Prerequisite(s): None</p>		
† BTR 116	Carpentry Basics	4 SCH
<p>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.</p> <p>Prerequisite(s): None</p>		
† BTR 121	Floors, Walls & Ceiling Framing	4 SCH
<p>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.</p> <p>Prerequisite(s): None</p>		
† BTR 131	Roof Framing	3 SCH
<p>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.</p> <p>Prerequisite(s): None</p>		
† BTR 134	Workplace Skills	2 SCH
<p>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.</p> <p>Prerequisite(s): None</p>		

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Course Descriptions

ƒ BTR 136	Windows, Doors & Stairs	3 SCH
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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): None

ƒ BTR 141	Cabinet Installation / Kitchen Design	3 SCH
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This course covers the application of carpentry to construct cabinets used in residential carpentry. Topics covered include kitchen location, design, arrangement of cabinets, lighting, standard cabinet sizes, cabinet materials, drawer guides, the work triangle, and building of cabinet units.

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

ƒ BTR 155	Drywall, Installation & Finishing	3 SCH
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This course presents instruction, application, and practice in drywall, installation, and finishing for residential and commercial construction.

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

ƒ BTR 160	Interior Finish Carpentry	5 SCH
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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, 106, 116, 121, and 131 with a grade of C or higher

ƒ BTR 175	NCCER Carpentry Level 2	4 SCH
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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, 106, 116, 121, and 131 with a grade of C or higher

ƒ BUS 111	Personal Finance	† SWT BUS1010	3 SCH
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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

ƒ BUS 120	Business English	3 SCH
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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

ƒ BUS 125	Business Communication	3 SCH
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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

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Course Descriptions

† BUS 126	Introduction to Business	† SWT BUS1020	3 SCH
<p>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.</p> <p>Prerequisite(s): None</p>			
† BUS 130	Records & Information Management		3 SCH
<p>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.</p> <p>Prerequisite(s): CIS100 with a grade of C or higher</p>			
† BUS 159	Principles of Marketing		3 SCH
<p>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.</p> <p>Prerequisite(s): None</p>			
† BUS 185	Business Ethics & Human Relations		3 SCH
<p>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.</p> <p>Prerequisite(s): None</p>			
† BUS 190	Leadership Development		3 SCH
<p>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.</p> <p>Prerequisite(s): None</p>			
† BUS 199	Business Internship		1-3 SCH
<p>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.</p> <p>Prerequisite(s): Completion of 20 program credit hours with 3.0 or higher GPA and permission of advisor</p>			
† BUS 210	Workstation Management		3 SCH
<p>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.</p> <p>Prerequisite(s): CIS100 with a grade of C or higher</p>			

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Course Descriptions

ƒ BUS 220	Administrative Procedures		3 SCH
<p>Study of current office procedures including the work environment, workplace technologies, written communication, and customer service skills.</p> <p>Prerequisite(s): CIS100 with a grade of C or higher</p>			
ƒ BUS 255	Principles of Management	‡ SWT BUS2020	3 SCH
<p>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.</p> <p>Prerequisite(s): None</p>			
BUS 290	Business Capstone		1 SCH
<p>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).</p> <p>Prerequisite(s): EMP 1901, or concurrent</p>			
CC 110	Introduction to Computing		4 SCH
<p>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.</p> <p>Prerequisite(s): None</p>			
CC 210	Fundamental Computer Programming Concepts		3 SCH
<p>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.</p> <p>Prerequisite(s): None</p>			
ƒ CET 101	OSHA 30 General Industry (CET)		2 SCH
<p>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.</p> <p>Prerequisite(s): None</p>			
ƒ CET 111	AC/DC Circuits I		4 SCH
<p>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.</p> <p>Prerequisite(s): None</p>			

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Course Descriptions

ƒ CET 121	Building Systems & CET: Electrical Systems & Lighting	2 SCH
<p>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.</p> <p>Prerequisite(s): None</p>		
ƒ CET 122	Building Systems & CET: HVAC	2 SCH
<p>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.</p> <p>Prerequisite(s): None</p>		
ƒ CET 123	Building Systems & Critical Environments: Security	1 SCH
<p>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.</p> <p>Prerequisite(s): None</p>		
ƒ CET 124	Plumbing and Waste Neutralization	2 SCH
<p>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.</p> <p>Prerequisite(s): None</p>		
ƒ CET 165	Modern Information Technology Networks	3 SCH
<p>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.</p> <p>Prerequisite(s): None</p>		
ƒ CET 211	AC/DC Circuits II	3 SCH
<p>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.</p> <p>Prerequisite(s): CET 101 and CET 111 or HVA 1104</p>		
ƒ CET 221	Basic Controls	3 SCH
<p>This course is an introduction to control system devices and control concepts that are commonly used to automate 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.</p> <p>Prerequisite(s): CET 101, CET 111 or HVA 1104</p>		

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Course Descriptions

ƒ CET 222	Building Automation System Controls and Programming		3 SCH
<p>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.</p> <p>Prerequisite(s): CET 101 and CET 111 or HVA 1104</p>			
ƒ CET 223	Applied Building System Controls		5 SCH
<p>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.</p> <p>Prerequisite(s): CET 101, CET 111, CET 122, CET 221, and CET 222</p>			
ƒ CET 231	Building Automation Networking and BACnet		2 SCH
<p>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.</p> <p>Prerequisite(s): CRT 165</p>			
ƒ CET 241	Airflow in Commercial and Critical Environments		3 SCH
<p>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.</p> <p>Prerequisite(s): CET 101, CET 111 or HVA 1104, CET 122 or HVA 1044, and CET 221</p>			
ƒ CET 299	CET Capstone Project		3 SCH
<p>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.</p> <p>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.</p>			
CHM 105	Introduction to Chemistry	↳ SWT CHM1030	5 SCH
<p>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.</p> <p>Prerequisite(s): High school Algebra with "C" or higher</p>			
CHM 110	Chemistry I	↳ SWT CHM1010	5 SCH
<p>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.</p> <p><i>CHM110A and CHM110B are equivalent to SWT CHM1010</i></p> <p>Prerequisite(s): Secondary or Post-Secondary General Chemistry or Physical Science and Algebra within five years with a grade of C or higher</p>			

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Course Descriptions

CHM 230	Chemistry II	† SWT CHM1020	5 SCH
<p>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.</p> <p>Prerequisite(s): CHM 110 Chemistry I</p>			
† CIS 100	Software Applications	† SWT CSC1010	3 SCH
<p>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.</p> <p>Prerequisite(s): Demonstrated ability to keyboard 20wpm</p>			
† CIS 116	Spreadsheet Management		2 SCH
<p>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.</p> <p>Prerequisite(s): CIS100 Software Applications with a grade of C or higher</p>			
† CIS 121	Word Processing		2 SCH
<p>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.</p> <p>Prerequisite(s): CIS100 Software Applications with a grade of C or higher</p>			
† CIS 126	Database Management		2 SCH
<p>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.</p> <p>Prerequisite(s): CIS100 Software Applications with a grade of C or higher</p>			
† CIS 150	Web Page Applications		3 SCH
<p>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.</p> <p>Prerequisite(s): None</p>			
† CIS 155	Integrated Applications		2 SCH
<p>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.</p> <p>Prerequisite(s): CIS 116 Spreadsheet Management, CIS 121 Word Processing, and CIS 126 Database Management, each with a grade of C or higher</p>			

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Course Descriptions

COM 101	Composition Workshop		1 SCH
<p>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.</p> <p>Prerequisite(s): Co-requisite: English Composition I (COM 105) or Technical Writing (COM 110) based on placement guidelines or P/I</p>			
COM 105	English Composition I	‡ SWT ENG1010	3 SCH
<p>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.</p> <p>Prerequisite(s): Meet placement guidelines</p>			
COM 106	English Composition II	‡ SWT ENG1020	3 SCH
<p>This course provides the students opportunities to practice organizing and writing research-based papers highlighting critical thinking. Library and research skills will be emphasized.</p> <p>Prerequisite(s): COM 105 with a grade of C or higher</p>			
COM 110	Technical Writing		3 SCH
<p>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.</p> <p>Prerequisite(s): Meet placement guidelines</p>			
COM 115	Public Speaking	‡ SWT COM1010	3 SCH
<p>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.</p> <p>Prerequisite(s): None</p>			
COM 116	Interpersonal Communications	‡ SWT COM1020	3 SCH
<p>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.</p> <p>Prerequisite(s): Meet placement guidelines</p>			
‡ CRT 100	Principles of Information Assurance		1 SCH
<p>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.</p> <p>Prerequisite(s): None</p>			

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Course Descriptions

¶ CRT 101	IT Fundamentals	3 SCH
<p>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.</p> <p>Prerequisite(s): TBD</p>		
¶ CRT 115	INT Essentials	1 SCH
<p>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.</p> <p>Prerequisite(s): None</p>		
¶ CRT 119	Windows Administration using PowerShell	2 SCH
<p>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.</p> <p>Prerequisite(s): CRT 148 Microsoft Network Operating System with a grade of C or higher.</p>		
¶ CRT 126	Advanced Operating Systems and PC Hardware	3 SCH
<p>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.</p> <p>Prerequisite(s): None</p>		
¶ CRT 144	UNIX Fundamentals	3 SCH
<p>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.</p> <p>Prerequisite(s): CRT 126 with a grade of C or higher</p>		
¶ CRT 148	Microsoft Windows Network Operating Systems	3 SCH
<p>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.</p> <p>Prerequisite(s): CRT126 with a grade of C or higher</p>		
¶ CRT 151	Infrastructure Virtualization	3 SCH
<p>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.</p> <p>Prerequisite(s): CRT 126 with a grade of C or higher</p>		

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Course Descriptions

¶ CRT 165	Modern Information Technology Networks	3 SCH
<p>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.</p> <p>Prerequisite(s): None</p>		
¶ CRT 170	Introduction to Networks	3 SCH
<p>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).</p> <p>Prerequisite(s): None</p>		
¶ CRT 176	Switching, Routing, and Wireless Essentials	3 SCH
<p>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.</p> <p>Prerequisite(s): CRT 170 with a grade of C or higher</p>		
¶ CRT 181	Network and Server Management (Capstone I)	3 SCH
<p>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).</p> <p>Prerequisite(s): CRT 126 and CRT 170, each with a grade of C or higher</p>		
¶ CRT 190	ITIL Foundations	2 SCH
<p>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.</p> <p>Prerequisite(s): A background in IT and a basic knowledge of Service Management concepts</p>		

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Course Descriptions

🔧 CRT 215	Database Systems	3 SCH
<p>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.</p> <p>Prerequisite(s): CRT 148 with a grade of C or higher</p>		
🔧 CRT 231	Internet of Things Fundamentals and Security	3 SCH
<p>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.</p> <p>Prerequisite(s): CRT 100, CRT 126, and either CRT 175 or CRT 176 all with a grade of C or higher</p>		
🔧 CRT 270	Cybersecurity Operations	3 SCH
<p>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.</p> <p>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</p>		
🔧 CRT 275	Enterprise Networking, Security, and Automation	3 SCH
<p>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.</p> <p>Prerequisite(s): CRT 176 Switching, Routing, and Wireless Essentials with a grade of C or higher</p>		
🔧 CRT 281	Cloud Computing Fundamentals	3 SCH
<p>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.</p> <p>Prerequisite(s): CRT 126, CRT 151, and either CRT 286 or CRT 285, all with a grade of C or higher</p>		

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Course Descriptions

† CRT 282	Network Security	3 SCH
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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 286, CRT 181, CRT 144, and CRT 148 with a grade of C or higher

† CRT 288	Fundamentals of Information Systems Security	3 SCH
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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
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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, CRT 181, and CRT 286, all with a grade of C or higher

† DFT 103	Fundamentals of Drafting	3 SCH
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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
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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

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Course Descriptions

EMS 100	Emergency Medical Technician	9 SCH
<p>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.</p> <p>Prerequisite(s): None</p>		
EMS 200	Advanced Emergency Medical Technician	9 SCH
<p>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 200 hours of didactic and psychomotor skills instruction to include skills demonstrations, clinical and field experience, with a minimum of 12 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.</p> <p>Prerequisite(s): : Kansas Board of Emergency Medical Services EMT Certification</p>		
EPD 101	OSHA10	1 SCH
<p>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.</p> <p>Prerequisite(s): None</p>		
EPD 103	Basic Electricity	1 SCH
<p>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.</p> <p>Prerequisite(s): None</p>		
EPD 105	Climbing Skills	4 SCH
<p>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.</p> <p>Prerequisite(s): CDL Required</p>		
EPD 110	Pole Framing & Construction Specifications	4 SCH
<p>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.</p> <p>Prerequisite(s): CDL Required</p>		

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Course Descriptions

EPD 120	Equipment Operation	3 SCH
<p>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.</p> <p>Prerequisite(s): CDL Required</p>		
EPD 125	Setting & Replacing Poles	1 SCH
<p>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.</p> <p>Prerequisite(s): CDL Required</p>		
EPD 1376	Transformer Theory and Installation	6 SCH
<p>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.</p> <p>Prerequisite(s): CDL Required</p>		
EPD 140	Service Installation & Metering	4 SCH
<p>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.</p> <p>Prerequisite(s): Must have passed EPD 199</p>		
EPD 145	Conductor Installation & Repair	4 SCH
<p>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.</p> <p>Prerequisite(s): EPD 199 with a grade of C or higher</p>		
EPD 150	Rubber Gloving and Hot Sticking Methods	3 SCH
<p>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.</p> <p>Prerequisite(s): Completion of EPD 199 with a grade of C or higher</p>		

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Course Descriptions

EPD 160	Underground Distribution	3 SCH
<p>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.</p> <p>Prerequisite(s): Completion of EPD 199 with a grade of C or higher</p>		
EPD 170	Fusing & System Coordination	1 SCH
<p>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.</p> <p>Prerequisite(s): Completion of EPD 199 with a grade of C or higher</p>		
EPD 180	Substations & Voltage Regulation	4 SCH
<p>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).</p> <p>Prerequisite(s): Completion of EPD 199 with a grade of C or higher</p>		
EPD 199	Utility Internship	8 SCH
<p>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.</p> <p>Prerequisite(s): Must have a grade of C or higher in EPD 101, 103, 105, 110, 120, 125, and 1376, and permission of instructor</p>		
ESL 101	Beginning ESL Levels 7-8	
<p>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)</p> <p>Prerequisite(s): None</p>		
ESL 201	Beginning ESL Levels 9-10	
<p>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)</p> <p>Prerequisite(s): None</p>		

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Course Descriptions

ESL 301	Advanced ESL Levels 11-12		
<p>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)</p> <p>Prerequisite(s): None</p>			
ESL 401	ESL Transitions		
<p>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)</p> <p>Prerequisite(s): None</p>			
GED 101	Adult Basic Education Levels 1-4		
<p>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)</p> <p>Prerequisite(s): None</p>			
GED 201	Adult Secondary Education Levels 5-6		
<p>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)</p> <p>Prerequisite(s): None</p>			
HIS 105	U.S. History to 1877	† SWT HIS1010	3 SCH
<p>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.</p> <p>Prerequisite(s): None</p>			
HIS 106	U.S. History since 1877	† SWT HIS1020	3 SCH
<p>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.</p> <p>Prerequisite(s): None</p>			
† HVA 103	Safety Orientation/OSHA10		1 SCH
<p>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.</p> <p>Prerequisite(s): None</p>			

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Course Descriptions

† HVA 1044	HVAC Fundamentals	4 SCH
<p>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.</p> <p>Prerequisite(s): Co requisite of OSHA 10</p>		
† HVA 1104	Electrical Fundamentals	4 SCH
<p>This course is an introduction to generation of electricity, types of electricity, direct and alternating current circuit fundamentals, magnetism, and electrical components.</p> <p>Prerequisite(s): HVA 103</p>		
† HVA 120	Domestic Refrigeration	3 SCH
<p>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.</p> <p>Prerequisite(s): HVA 103 and HVA 1044</p>		
† HVA 130	Controls & Motors	3 SCH
<p>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.</p> <p>Prerequisite(s): HVA 1044</p>		
† HVA 140	Heating System Fundamentals	3 SCH
<p>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.</p> <p>Prerequisite(s): HVA 103 and HVA 1104</p>		
† HVA 150	Cooling	3 SCH
<p>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.</p> <p>Prerequisite(s): HVA 130</p>		
† HVA 151	Advanced Refrigeration	3 SCH
<p>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.</p> <p>Prerequisite(s): HVA1044, HVA1104, and HVA120 with a grade of C or higher or with instructor approval</p>		
HVA 161	EPA 608	1 SCH
<p>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.</p> <p>Prerequisite(s): HVA1044 and HVA120 with a grade of C or higher or with instructor approval</p>		

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Course Descriptions

ƒ HVA 170	Design & Blueprint Reading	3 SCH
<p>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.</p> <p>Prerequisite(s): HVA 103, HVA 1044, and HVA 140</p>		
ƒ HVA 181	Commercial Refrigeration	4 SCH
<p>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.</p> <p>Prerequisite(s): HVA1044 and HVA120 with a grade of C or higher or with instructor approval</p>		
HVA 185	Workplace Skills	1 SCH
<p>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.</p> <p>Prerequisite(s): None</p>		
ƒ HVA 199	Occupational Work Experience	2 SCH
<p>Supervised work experience in the public and private sector.</p> <p>Prerequisite(s): HVA 181; faculty recommendation</p>		
IET 100	OSHA 30 General Industry	2 SCH
<p>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.</p> <p>Prerequisite(s): None</p>		
ƒ IET 101	Fundamentals of Electricity AC/DC	3 SCH
<p>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.</p> <p>Prerequisite(s): None</p>		
ƒ IET 102	Fundamentals of Fluid Power - Pneumatics	3 SCH
<p>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.</p> <p>Prerequisite(s): None</p>		

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Course Descriptions

† IET 103	Fundamentals of Fluid Power - Hydraulics	3 SCH
<p>This hydraulic training course is designed to familiarize students with the construction and operation of hydraulic components. Investigating the construction and operation of a range of hydraulic equipment, this hydraulic training course covers the fundamental principles of hydraulics as well as the individual components. Valves controlling pressure, flow rate, sequence and direction of flow are included and practical exercises are used to demonstrate their operation, based on standard symbol circuits. Maintenance and a systematic approach to fault finding are also covered.</p> <p>Prerequisite(s): None</p>		
† IET 104	Mechatronics	3 SCH
<p>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.</p> <p>Prerequisite(s): None</p>		
† IET 105	Mechanical Drive I	3 SCH
<p>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.</p> <p>Prerequisite(s): IET 100 or OHS 30 with a grade of "C" or higher.</p>		
† IET 121	Basic Controls	5 SCH
<p>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.</p> <p>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.</p> <p>Students will expand their knowledge into programming PLCs, incorporate Human Machine Interface (HMI) programming and modifying programs to include changes in the applications.</p> <p>Prerequisite(s): IET 101 with a grade of "C" or higher.</p>		
† IET 210	Mechanical Drive II	3 SCH
<p>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.</p> <p>Prerequisite(s): IET 105 Mechanical Drive I with a grade of "C" or higher.</p>		

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Course Descriptions

† IET 220	Industrial Motor Controls	4 SCH
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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

† IET 230	Process Logistics and Advanced Manufacturing	3 SCH
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As an introduction to Industry 4.0, this course aims to relay foundational information utilizing data analytics. The course will introduce the various industrial revolutions and how Industry 4.0, the internet of things, smart factories, and cyber-physical systems are a disruption to the manufacturing industry and discusses the impact and implications that these advancements introduce.

Prerequisite(s): None

† IET 240	Applied Industry	5 SCH
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This course will give participants the ability to explore and understand Radio Frequency Identification (RFID) utilizing Tags, Readers, and Writers as well as Vision Systems that utilize QR Coders/Barcodes. All of these elements provide critical data that modern industry relies on.

Building upon the base knowledge gained in the Level I Industry 4.0 Course, students will delve deeper into the Industrial Internet of Things (IIOT) as it applies to modern production systems. Much of the focus will be on how Manufacturing Execution Systems (MES) sends and receives data from the production process. Participants will work with the MES and learn how to process, utilize, and protect critical data. The students will work with real production scenarios and real-world industrial equipment to incorporate Human Machine Interface (HMI) with the MES and equipment.

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
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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 102	Technical Mathematics I with Review	5 SCH
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This is an overview of mathematics course that focuses on technical applications. The first part of the semester will be focused on preparing students to succeed in college level mathematics. Topics include basic operations, fractions, decimals, percent, and measurement. The second part of the semester will focus on 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
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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

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Course Descriptions

MAT 109	Technical Mathematics II		3 SCH
<p>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.</p> <p>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</p>			
MAT 110	Intermediate Algebra		3 SCH
<p>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.</p> <p>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</p>			
MAT 135	College Algebra	‡ SWT MAT1010	3 SCH
<p>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).</p> <p>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</p>			
MAT 145	Elementary Statistics	‡ SWT MAT1020	3 SCH
<p>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.</p> <p>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</p>			
MAT 155	Trigonometry	‡ SWT MAT1030	3 SCH
<p>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.</p> <p>Prerequisite(s): MAT 135 College Algebra with a grade of "C" or higher</p>			
‡ MLT 1213	Introduction to the Laboratory for MLT		3 SCH
<p>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.</p> <p>Prerequisite(s): None</p>			

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Course Descriptions

† MLT 2216	MLT Hematology/Coagulation	6 SCH
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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
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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
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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

† MLT 2503	MLT Immunology	3 SCH
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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

† MLT 2706	MLT Pathogenic Microbiology	6 SCH
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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

† MLT 2806	MLT Immunochemistry	6 SCH
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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 immunochemistry.

Prerequisite(s): Admission to the MLT program or instructor approval

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Course Descriptions

☒ MLT 2988	Clinical Internship for MLT		8 SCH
<p>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.</p> <p>Prerequisite(s): Successful completion of all technical courses</p>			
NTR 105	Nutrition	☒ SWT HSC 1010	3 SCH
<p>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.</p> <p>Prerequisite(s): None</p>			
☒ NUR 107	KSPN Foundations of Nursing		4 SCH
<p>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.</p> <p>Prerequisite(s): Admission to the PN program, and concurrent enrollment in NUR108</p>			
☒ NUR 108	KSPN Foundations of Nursing Clinical		2 SCH
<p>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.</p> <p>Prerequisite(s): Admission to the PN program, and concurrent enrollment in NUR107</p>			
☒ NUR 1112	KSPN Fundamentals of Pharmacology and Safe Medication Administration		2 SCH
<p>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.</p> <p>Prerequisite(s): Admission to the PN program and concurrent enrollment in NUR 107 and NUR 108</p>			
☒ NUR 1175	KSPN Nursing Care of Adults I		5 SCH
<p>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.</p> <p>Prerequisite(s): NUR107 and NUR108 with a "C" or higher; concurrent enrollment in NUR118</p>			
☒ NUR 118	KSPN Nursing Care of Adults I Clinical		3 SCH
<p>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.</p> <p>Prerequisite(s): NUR107 and NUR108 with a "C" or greater; concurrent enrollment in NUR1175</p>			

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Course Descriptions

NUR 133	KSPN Leadership, Roles, and Issues	1 SCH
<p>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.</p> <p>Prerequisite(s): NUR 102 with a grade of 90% or better, NUR 1112, NUR1175 with a "C" or better, and NUR118</p>		
F NUR 134	KSPN Mental Health Nursing	2 SCH
<p>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.</p> <p>Prerequisite(s): NUR 102, NUR 1112, NUR 1175, and NUR 118 with a "C" or better</p>		
F NUR 136	KSPN Caring of Aging Adults	2 SCH
<p>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.</p> <p>Prerequisite(s): NUR 102, NUR 1112, NUR 1175, and NUR 118 with a "C" or better</p>		
F NUR 1375	Nursing Care of Adults II	5 SCH
<p>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.</p> <p>Prerequisite(s): NUR 102, NUR 1112, NUR 1175, and NUR 118 with a "C" or better, and concurrent enrollment in NUR 138</p>		
F NUR 138	KSPN Nursing Care of Adults II Clinical	3 SCH
<p>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.</p> <p>Prerequisite(s): NUR 102, NUR 1112, NUR 1175, and NUR 118 with a "C" or better, and concurrent enrollment in NUR137</p>		
F NUR 170	KSPN Maternal Child Nursing	2 SCH
<p>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.</p> <p>Prerequisite(s): NUR 134, NUR 136, NUR1375, and NUR138 with a "C" or better NUR 138. Concurrent enrollment in NUR 171</p>		
F NUR 171	KSPN Maternal Child Nursing Clinical	1 SCH
<p>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.</p> <p>Prerequisite(s): NUR 134, NUR 136, NUR1375, and NUR138 with a "C" or better. Concurrent enrollment in NUR 170</p>		

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Course Descriptions

NUR 190	IV Therapy		3 SCH
<p>This course is designed to help the Licensed Practical Nurse gain beginning competency in intravenous (IV) administration methods and primary uses of IV therapy. Successful completion of the course also allows LPN's to take the state exam for LPN-IV status. Registered Nurses will benefit from review and enhancement of knowledge and skills related to IV therapy.</p> <p>Prerequisite(s): Current Kansas nursing license (LPN or RN) and all requirements for clinical as listed on the IV Therapy course flyer.</p>			
NUR 201	RN Transition Course		2 SCH
<p>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.</p> <p>Prerequisite(s): Admission to the ADN program. 2 credit hours (1.5 didactic, .5 lab)</p>			
NUR 220	Nursing Across the Lifespan		10 SCH
<p>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.</p> <p>Prerequisite(s): NUR 201 RN Transition Course with a "C" or better. 10 credit hours (7 didactic, 3 clinical)</p>			
NUR 230	Management of Patient Care		12 SCH
<p>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.</p> <p>Prerequisite(s): NUR 220 Nursing Across the Lifespan with a "C" or higher. 12 credit hours (8 didactic, 4 clinical)</p>			
PHY 100	General Physics	† SWT PHY1010	5 SCH
<p>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.</p> <p><i>PHY100A and PHY100B are equivalent to SWT PHY1010</i></p> <p>Prerequisite(s): Intermediate Algebra</p>			
POL 105	American Government	† SWT POL1020	3 SCH
<p>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.</p> <p>Prerequisite(s): None</p>			
PSY 100	General Psychology	† SWT PSY1010	3 SCH
<p>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.</p> <p>Prerequisite(s): None</p>			

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Course Descriptions

PSY 125	Human Growth and Development	† SWT PSY200	3 SCH
<p>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.</p> <p>Prerequisite(s): PSY100 recommended</p>			
SOC 100	Introduction to Sociology	† SWT SOC1010	3 SCH
<p>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.</p> <p>Prerequisite(s): None</p>			
SOC 150	Social Problems	† SWT SOC2010	3 SCH
<p>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.</p> <p>Prerequisite(s): None</p>			
SOC 200	Marriage and Family	† SWT SOC2020	3 SCH
<p>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.</p> <p>Prerequisite(s): None</p>			
WLD 1001	Welding Safety		1 SCH
<p>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).</p> <p>Prerequisite(s): None</p>			
WLD 1010	OSHA 10		1 SCH
<p>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.</p> <p>Prerequisite(s): None</p>			
† WLD 110	Welding Metallurgy		1 SCH
<p>This course covers metallurgical principles applied to welding including mechanisms of strengthening, phase equilibria, and microstructure of the weld zone.</p> <p>Prerequisite(s): WLD 100</p>			
† WLD 116	Fabrication		1 SCH
<p>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.</p> <p>Prerequisite(s): None</p>			

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Course Descriptions

WLD 118	Discontinuities and Defects	1 SCH
<p>As a welder you have the responsibility to evaluate your weldments, identify and classify discontinuities and defects and the conditions that exist when evaluating discontinuities in order to decide whether they are acceptable or not.</p> <p>Prerequisite(s): None</p>		
WLD 1153	Blueprint Reading	3 SCH
<p>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.</p> <p>Prerequisite(s): None</p>		
WLD 1303	Cutting Processes	3 SCH
<p>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.</p> <p>Prerequisite(s): None</p>		
WLD 140	Intro to SMAW	3 SCH
<p>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.</p> <p>Prerequisite(s): WLD 1010 OSHA 10 and WLD 1001 Welding Safety or WLD 100 Welding Safety/OSHA 10</p>		
WLD 145	SMAW Advanced Structural	4 SCH
<p>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.</p> <p>Prerequisite(s): WLD 1010 OSHA 10 and WLD 1001 Welding Safety or WLD 100 Welding Safety/OSHA 10</p>		
WLD 150	Intro to GMAW	3 SCH
<p>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.</p> <p>Prerequisite(s): WLD 1010 OSHA 10 and WLD 1001 Welding Safety or WLD 100 Welding Safety/OSHA 10</p>		
WLD 155	GMAW Advanced	4 SCH
<p>Students will receive instruction in proper setup and operation of MIG welding equipment to weld in all positions on aluminum and mild steel.</p> <p>Prerequisite(s): WLD 1010 OSHA 10 and WLD 1001 Welding Safety or WLD 100 Welding Safety/OSHA 10</p>		

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WLD 1604	Flux Cored ARC Welding Structural	4 SCH
<p>Students will receive instruction on the proper setup and use of flux cored arc welding equipment.</p> <p>Prerequisite(s): WLD 1010 OSHA 10 and WLD 1001 Welding Safety or WLD 100 Welding Safety/OSHA 10, WLD 140 and WLD 150</p>		
WLD 165	SMAW/GMAW Pipe Welding	3 SCH
<p>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.</p> <p>Prerequisite(s): WLD 1010 OSHA 10 and WLD 1001 Welding Safety or WLD 100 Welding Safety/OSHA 10</p>		
WLD 171	Gas Tungsten Arc Welding	3 SCH
<p>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.</p> <p>Prerequisite(s): WLD 1010 OSHA 10 and WLD 1001 Welding Safety or WLD 100 Welding Safety/OSHA 10</p>		
WLD 1764	Gas Tungsten Arc Welding Advanced	4 SCH
<p>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.</p> <p>Prerequisite(s): WLD 1010 OSHA 10 and WLD 1001 Welding Safety or WLD 100 Welding Safety/OSHA 10</p>		
WLD 190	Welding Project Management	2 SCH
<p>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.</p> <p>Prerequisite(s): WLD 1010 OSHA 10 and WLD 1001 Welding Safety or WLD 100 Welding Safety/OSHA 10</p>		
WLD 199	Occupational Work Experience	2 SCH
<p>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.</p> <p>Prerequisite(s): WLD 1010 OSHA 10 and WLD 1001 Welding Safety or WLD 100 Welding Safety/OSHA 10</p>		

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