



Program Of Studies 2024-2025

**Board Approved
(03/19/2024)**

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Notice of Non-Discrimination

In accordance with federal law, USDE Guidelines IV-O, Title VI: 34 C.F.R. § 100.6 (d), this notice shall serve to advise students, parents, employees, and the general public that all Career and Technical Education (CTE) opportunities offered by Mercer County Technical Schools will be available to all students regardless of race, color, national origin, gender or disability.

Mercer County Technical School is committed to maintaining environments for all students, employees, and visitors that are free from discrimination and harassment. In accordance with State and Federal law, Mercer County Technical School does not discriminate and prohibits discrimination on the basis of the following protected classes and characteristics in all of its programs and activities, including but not limited to employment, promotion, admissions, and access to all career and technical programs: race; creed; color; sex; gender; pregnancy; gender identity or expression; national origin; nationality; age; ancestry; marital status, domestic partnership, or civil union status; religion; affectional or sexual orientation; atypical hereditary cellular or blood trait; genetic information; liability for military service; protected veteran status; mental or physical disability (including perceived disability, AIDS and HIV-related illnesses); harassment (related to any of the foregoing categories); retaliation for filing a complaint of, or participating in an investigation of discrimination; and any other category protected by law.

Mercer County Technical High Schools offers courses that may lead to industry-valued credentials and college credits through respective articulation agreements with post-secondary institutions. Our CTE courses are, but not limited to, the following areas:

- Automotive Mechanics Technology
- Carpentry
- Cosmetology
- Criminalistics & Criminal Science
- Culinary Arts
- Diesel Mechanics
- Engineering
- Heating, Ventilation, Air Conditioning, Refrigeration (HVAC-R)

Mercer County Technical High School Admissions

Students are admitted into Mercer County Technical School programs without regard to race, color, national origin, gender, or disability. CTE and academy admission criteria can be found by visiting <https://www.mcts.edu/admissions-procedures/>. The Board will take steps to ensure that the lack of English language proficiency will not be a barrier to admission and participation in CTE programs.

Requests for Accommodations and complaints of discrimination, including those concerning Affirmative Action/Title IX, should be directed to:

Michael Orfe
Affirmative Action Officer/Title IX Coordinator
1085 Old Trenton Road
Trenton, NJ 08690
morfe@mcts.edu

All requests for accommodations from Mercer County Technical Schools' students, pursuant to Section 504 or the ADA, should be directed to Mr. Ryan Haimer.

Mr. Ryan Haimer
Director of Special Services
1085 Old Trenton Road
Trenton, NJ 08690
rhaimer@mcts.edu

Mercer County Technical Schools Board of Education

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Mr. Brendan O’Gibney, Supervisor of Humanities & ESL

Contents of this Guide

Please note that the contents of this guide are subject to change based on administrative discretion.

Mission Statement

Mercer County Technical Schools' mission is to produce a community of inspired, compassionate learners who are knowledgeable, skilled, and possess the competencies that will prepare them for success in an ever-changing technological world. We provide our students with educational opportunities to prepare for careers in business and industry while emphasizing a culture of personal attention that focuses on the individual learner. Our goal is to foster a school climate that emphasizes the importance of the teaching-learning process and provides youth and adults the opportunities to maximize their potential, reflect, and offer solutions to challenges posed by society.

To fulfill this mission, the faculty and staff will:

- *Embrace the belief that every student can learn*
- *Continuously emphasize that learning is a life-long process*
- *Assist students in enabling them to think critically, analyze problems, and develop solutions*
- *Assist students in becoming productive citizens in a global society*
- *Help students make career decisions*
- *Identify how specific courses correspond to particular careers*
- *Improve students' skills and increase their potential for employability, further training, and education.*

Mercer County Technical Schools have developed both *Shared-Time* and *Academy* Programs of Study to develop appropriate college and career pathways. Both pathways facilitate the pursuit of advanced educational options through dual enrollment credits and prior learning assessment credits. *Academy* students, accomplish this through automatic dual enrollment at Mercer County Community College (MCCC), beginning with their freshman year and continuing throughout their four years in high school. *Shared-Time* students, accomplish this through prior learning assessment credit that is awarded after completion of the program and enrollment at Mercer County Community College within three years of graduation.

Although there are many similarities between a *Shared-Time Program of Study* and an *Academy*, one significant difference exists. Enrolling in a *Shared-Time Program of Study* (i.e., Automotive Technology, Cosmetology, HVAC-R) will give students the credentials to begin a career directly after high school graduation. *Shared-Time Program of Study* graduates will be prepared to join their field full-time and pursue advanced training and certification. However, *Academy* courses (i.e., Culinary Arts, Health Science, STEM-Engineering Pathway) are intended for students who plan to continue their education at a two or four-year institution.

Mercer County Technical Schools has established the following three (3) Academy offerings to facilitate the exploration of future careers.

1. *Culinary Arts Academy*
2. *Health Science Academy*
3. *STEM Academy - Engineering Pathway*

Each of the above Academy pathways correlates to one of the following sixteen (16) nationally recognized career clusters: *Agriculture, Food & Natural Resources, Architecture & Construction, Arts, A/V Technology & Communications, Business, Management & Administration, Education & Training, Finance, Government & Public Administration, Health Science, Hospitality & Tourism, Human Services, Information Technology, Law, Public Safety, Corrections & Security, Manufacturing, Marketing, and STEM.* <https://careertech.org/career-clusters>

Graduation Requirements

New Jersey State Minimum Graduation Requirements by Content Area 120 Credits (N.J.A.C. 6A:8-5.1)

Content Area	Credits and Additional Requirements
English Language Arts	20 Credits
Mathematics	<p style="text-align: center;">15 Credits including</p> <ul style="list-style-type: none"> ● Algebra I or the content equivalent ● Geometry or the content equivalent ● Third year of math that builds on the concepts and skills of algebra and geometry and prepares students for college and 21st-century careers.
Science	<p style="text-align: center;">15 credits with at least five credits in each</p> <ul style="list-style-type: none"> ● Laboratory biology/life science or the content equivalent ● Laboratory/inquiry-based science course (i.e., chemistry, environmental science, or physics) ● Laboratory/inquiry-based science course
Social Studies	<p style="text-align: center;">15 credits including</p> <ul style="list-style-type: none"> ● 5 credits in world history ● Integration of civics, economics, geography, and global content in all course offerings ● N.J.S.A. 18A:35-1 and 18A:35-2
Financial, Economic Business, and Entrepreneurial Business Literacy	2.5 credits
Health, Safety, and Physical Education	<p style="text-align: center;">15 credits over four years, including</p> <ul style="list-style-type: none"> ● 3 3/4 credits in health, safety, and physical education during each year of enrollment, distributed as 150 minutes per week each year ● N.J.S.A. 18A:35-5, 18A:35-7 and 18A:35-8
Visual and Performing Arts	5 credits
World Languages	5 credits
Technology	Integrated throughout all courses
21st Century Life and Careers	5 credits
<ol style="list-style-type: none"> 1. School districts may establish course and/or credit requirements that exceed the State minimums. 2. "Content equivalent" means courses or activities that include the same or equivalent knowledge and skills as those found in traditionally titled courses that are required for high school graduation and which are aligned with the New Jersey Student Learning Standards. 	

Additional Graduation Requirements

1. Attendance requirements as indicated in Policy and Regulation 5200;
2. Any statutorily mandated requirements for earning a high school diploma;
3. Any Statewide assessment graduation requirements as determined by the New Jersey Department of Education;
4. A graduating student must have earned a minimum of **thirty-five credits in career and technical education** courses. Credit shall be only awarded through the successful sequential completion of courses as outlined by program course sequences within this document.

Graduation Assessment Requirements

Classes of 2024–2025

NEW FAFSA GRADUATION REQUIREMENT

Beginning with the Class of 2025, and extending to the next two school years after that, students and their guardians must complete and submit either the Free Application for Federal Student Aid (FAFSA) or the New Jersey Alternative Financial Aid Application to get a diploma (unless they are granted an exemption after submitting a waiver or speaking to a guidance counselor).

Class of 2024 and 2025 (*Updated May 2023*)

On May 3, 2023, the State Board of Education approved the graduation-ready cut score for the ELA and mathematics components of the NJGPA, as well as the menu of alternative assessments and aligned cut scores.

The requirements in this section were adopted by the New Jersey State Board of Education on September 8, 2021 for the classes of 2023–2025.

English Language Arts and Literacy (ELA)

If, after completing the New Jersey Graduation Proficiency Assessment in grade 11, students did not demonstrate proficiency by passing the ELA component, such students may access the following pathways:

- Second Pathway: By meeting the designated cut score on a substitute competency test such as the PSAT, SAT, ACT, or ACCUPLACER; or
- Third Pathway: By submitting, through the district, a student portfolio appeal to the New Jersey Department of Education.

Mathematics

If, after completing the required New Jersey Graduation Proficiency Assessment in grade 11, students did not demonstrate proficiency by passing the mathematics component, such students may access the following pathways:

- Second Pathway: By meeting the designated cut score on a substitute competency test such as the PSAT, SAT, ACT, or ACCUPLACER; or
- Third Pathway: By submitting, through the district, a student portfolio appeal to the New Jersey Department of Education.

Students must take and demonstrate proficiency in grade 11 on the New Jersey Graduation Proficiency Assessment, which includes content aligned to the grade 10 New Jersey Student Learning Standards (NJSLS) in ELA and the NJSLS in Algebra 1 and Geometry. If after completing the New Jersey Graduation Proficiency Assessment a student does not demonstrate proficiency in the ELA or mathematics section, the student may retake the New Jersey Graduation Proficiency Assessment in the following summer or fall.

Under the Individuals with Disability Education Act (IDEA), all students with disabilities must be included in all general state and district-wide assessments. IEPs of students with disabilities will address whether the student must meet the passing score on the state assessments or demonstrate proficiency through an alternate pathway. Students with disabilities whose IEPs specify an alternative way to demonstrate proficiencies will continue to follow the graduation assessment requirements outlined in their IEPs.

Pathways (including proficiency levels/cut scores) for the Classes of 2023-2025 are specified below.

First Pathway—NJGPA

Note: Cut Scores Approved by the New Jersey State Board of Education on May 3, 2023

ELA	Mathematics
New Jersey Graduation Proficiency Assessment—ELA \geq 725 (Graduation Ready)	New Jersey Graduation Proficiency Assessment—Mathematics \geq 725 (Graduation Ready)

Second Pathway—Menu of Substitute Competency Tests

Note: This pathway is only available to students who completed the New Jersey Graduation Proficiency Assessment in grade 11.

Students who sat for the New Jersey Graduation Proficiency Assessment in grade 11 and did not demonstrate proficiency are able to demonstrate proficiency in ELA and/or mathematics by meeting the designated cut score on one of the assessments on the menu of substitute competency tests in the table for the second pathway (below).

Note: Cut scores forthcoming following New Jersey State Board of Education Approval.

ELA	Mathematics
One of the following: <ul style="list-style-type: none">• ACT Reading \geq 17• Accuplacer WritePlacer \geq 5• Accuplacer WritePlacer English Second Language \geq 4• PSAT10 Evidence-Based Reading and Writing (EBRW) \geq 420• PSAT10 Reading \geq 21• PSAT/NMSQT EBRW \geq 420• PSAT/NMSQT Reading \geq 21• SAT EBRW \geq 450• SAT Reading \geq 23	One of the following: <ul style="list-style-type: none">• ACT Math \geq 17• Accuplacer Elementary Algebra \geq 49• Accuplacer Next-Generation QAS \geq 250• PSAT10 Math Section or PSAT/NMSQT Math Section \geq 420• PSAT10 Math or PSAT/NMSQT Math \geq 21• SAT Math Section \geq 440• SAT Math Test \geq 22

Third Pathway—Portfolio Appeals

Note: This pathway is only available to students who completed the New Jersey Graduation Proficiency Assessment in grade 11.

Students who completed the New Jersey Graduation Proficiency Assessment in grade 11 and did not demonstrate proficiency are able to demonstrate proficiency in ELA and/or mathematics through a portfolio appeal in grade 12.

ELA	Mathematics
Meet the criteria of the NJDOE Portfolio Appeal for ELA	Meet the criteria of the NJDOE Portfolio Appeal for Math

Mercer County Technical Schools Qualifying Courses

SUBJECT	REQUIRED CREDITS	ELIGIBLE COURSES
English Language Arts	20	English I, II, III, IV
Mathematics	15	Algebra I, Geometry, Algebra II, AP Precalculus
Science	15	Biology, Chemistry, Physics, Environmental Science
Social Studies	15	World History, US History I, US History II
Financial, Economic Business, and Entrepreneurial Business Literacy	2.5	Foundations in Personal Finance
Health, Safety, and Physical Education	15	CHPE I, II, III, IV
Visual and Performing Arts	5	Visual & Performing Arts Seminar
World Languages	5	Spanish I, II
Technology	N/A	This is integrated into all courses.
21st Century Life and Careers	5	All CTE-related courses fall into this category

***Please note that students must earn additional credits outside the courses outlined above to meet the 120-credit minimum state requirement.**

Incompletes

Students absent from school with excused absences will be assigned an “Incomplete” and given the opportunity to make up their missing assignments.

Students who receive an “Incomplete” will adhere to the following guidelines:

- For every day absent, students will have one day to make up the missed assignment(s).
- If the student fails to complete the assignments within the designated time, failures will be assigned for any outstanding assignments, and the final grade will be calculated.
- The principal has the discretion to extend the deadlines for extended illnesses or other extenuating circumstances.
- In the case of an IEP or 504, the plan will be followed.

Individualized Student Learning Opportunities

The 120 credit requirement set forth in N.J.A.C. 6A:8-5.1 may be met in whole or in part through program completion of a range of experiences that enable students to pursue a variety of personalized learning opportunities, as follows:

The district shall establish a process to approve individualized student learning opportunities that meet or exceed the New Jersey Student Learning Standards.

Individualized student learning opportunities in all New Jersey Student Learning Standards areas include, but are not limited to the following:

1. Independent study;
2. Online learning;
3. Study abroad programs;
4. Student exchange programs; and
5. Structured learning experiences, including, but not limited to, work-based programs, internships, apprenticeships, and service-learning experiences.

Individualized student learning opportunities based upon specific instructional objectives aimed at meeting or exceeding the New Jersey Student Learning Standards shall:

1. Be based on student interest and career goals as reflected in the Personalized Student Learning Plans;
2. Include a demonstration of student competency;
3. Be certified for completion based on the district process adopted, and
4. Be on file in the school district and subject to review by the commissioner or designee.

Students wishing to apply for or explore individualized learning opportunities must meet with their guidance counselor. See a pre-approved list of courses offered by Mercer County Community College ([Click here](#)).

College Readiness Assessments

The Mercer County Technical School administers the PSAT/NMSQT (Preliminary SAT/National Merit Scholarship Qualifying Test). The PSAT/NMSQT measures verbal reasoning, critical reading, math problem-solving, and writing skills. The PSAT is intended to provide an estimated SAT score. Students may qualify for the National Merit Scholarship Program based on their results on this standardized test. Competition for this scholarship is only available to juniors. Please visit www.collegeboard.org/psat for additional information.

Career Prep At Mercer County Community College

The district shall also establish a process to approve tuition-free post-secondary learning opportunities for college credit through Mercer County Community College.

Applicants should have a recommended 3.25 GPA and an excellent attendance record. Programs and courses are subject to change or revision each year. Students must agree to follow the college calendar and attend class, even if sending school transportation is not provided. Students are responsible for purchasing books, required lab materials, and uniforms.

Academy and Shared-Time students are not eligible for this program

Please visit the school's website for more information on our [Career Prep Program](#).

Grading

Mercer County Technical Schools hold the door to student achievement wide open at all times. Students are invited to assess and reassess until each reaches the level of achievement in which he or she is willing to invest. Subjective factors are removed from the equation. When students are judged on academic achievement, they commit to academic excellence.

MCTS has adopted the following grading calculation guidelines:

- 50% Measurements of Achievement
- 40% Measurements of Process
- 10% Measurements of Practice

All teachers will use the following Grading System in determining student grades.

Letter Grade	Numerical Grade Range	Explanation
A	93-100	Mastery Demonstrates excellence in skills and course expectations.
A-	90-92	
B+	87-89	Proficiency Demonstrates competence in skills and course expectations.
B	83-86	
B-	80-82	
C+	77-79	Emerging Demonstrates progress in skills and course expectations.
C	70-76	
D	60-69	Difficulty Demonstrates limited progress in skills and course expectations.
F	0-59	Failing: Does not demonstrate necessary skills and does not meet the requirements to earn course credit.

Students who fail to earn at least a 60 final average in a non-elective course as defined in N.J.A.C. 6A:8-4.1 and attend and receive a passing grade in an approved summer school make-up program will receive the grade they earn. Both grades will appear on the student's transcript. Both grades will be used to calculate the student's grade point average.

A grade point average (GPA) is a standard scale used by many schools to calculate student academic achievement. Each range of number grades assigned to students will correspond to a scale number. Calculation of the GPA will take into consideration the number of credits associated with each course, the weight of the course, and the grade received by the student. The grading scale can be seen below:

Grade Scale Chart

Numerical Grade Range	Letter Grade	Non-Weight scale number	Half-Weight scale number	Full-Weight scale number
93-100	A	4.00	4.50	5.00
90-92	A-	3.75	4.25	4.75
87-89	B+	3.25	3.75	4.25
83-86	B	3.00	3.50	4.00
80-82	B-	2.75	3.25	3.75
77-79	C+	2.25	2.75	3.25
70-76	C	2.00	2.50	3.00
67-69	D+	1.25	1.75	2.25
60-66	D	1.00	1.50	2.00
0-59	F	0.00	0.00	0.00

The GPA can be calculated as weighted or unweighted. For the final GPA, MCTS will utilize the weighted GPA.

Calculating GPA

Weighted GPA

Determine which types of weighting each of your classes are categorized as (non-weighted, half-weighted, or full-weighted). Match the numerical grade to the corresponding scale number in the Grade Scale Chart. Determine the number of course credits allotted for each course. Multiply the course credits by the scale number for each class to get a final score number for each class. Add all the final score numbers together and divide that number by the total number of credits. This will give you your weighted GPA.

Unweighted GPA

Match the numerical grades received in each class to the non-weighted scale number. Determine the number of course credits allotted for each course. Multiply the course credits by the non-weighted scale number for each course to get a final score number per class. Add all of the final score numbers together and divide that number by the total number of credits. This will provide you with your unweighted GPA.

Courses in the various subject areas will be categorized into one of the following levels.

Weighted Levels:	Full-Weighted (AP)	Half-Weighted (Honors)	Non-Weighted
Weight:	5.0	4.5	4.0
Courses:	<ul style="list-style-type: none"> → AP Computer Science Principles → AP Precalculus 	<ul style="list-style-type: none"> → English I, II, III, IV → Algebra I, II → Geometry → Biology → Chemistry → Physics → Environmental Science → Spanish II → World History → US History I → US History II → Visual & Performing Arts Seminar → Health and PE IV → All CTE-related courses 	<ul style="list-style-type: none"> → Spanish I → Health and PE I, II, III → Foundations in Personal Finance

Guidance & Counseling

Mercer County Technical Schools have guidance counselors who are “specialists” in career planning and college admissions requirements. By working with them, students can be assured that the courses they are placed in each year will prepare them for the career goals they have set.

The process for course placement encourages open discussion between students, parents/guardians, counselors, and teachers. Hence, the student is comfortable with his or her schedule, and parents/guardians are assured that their child is prepared for a successful future.

This Program of Studies guide includes the academic and career technical education courses offered for the next school year within each program.

Naviance

Naviance is a comprehensive student-centered life planning service available to all Mercer County Technical High School students. Family Connection empowers the student, family, and counselor to work together in planning for success during and beyond high school. All students can use Family Connection for college searches, career searches, and portfolio building for senior year. All college common applications will be sent electronically through Naviance: Parent Connection. Any student who is not familiar with the program should contact his/her school counselor.

Academy Program of Study Offerings

Culinary Arts Academy

CIP Code: 120503


Program Of Study

Pathway Description

The U.S. Department of Labor reports that job growth in the culinary arts field is expected to increase in the next decade. The culinary arts field offers extensive career opportunities in an exciting and challenging profession. Individuals interested in careers in the area have substantial and varied options. These individuals can work in any food service setting, including restaurants, resorts, cruise ships, hotels, cafeterias, and bakeries. This field can prepare students for work as private chefs/cooks, caterers, and consultants or managers. Employment opportunities are not geographically limited; positions in culinary arts can be obtained in nearly every region of the country and around the globe. Industry professionals can obtain positions as head cooks, sous chefs, sub chefs, executive chefs, chefs de cuisine, cafeteria chefs, or short-order cooks. These individuals can specialize in certain types of cuisine or food preparation. The possibilities in the culinary arts field for interested individuals are endless.

Our program prepares students for a professional role in the fast-growing commercial food industry in the culinary and baking fields. Students begin with basic food preparation skills and advance to areas such as purchasing, managing, and leading. The comprehensive program teaches students to master the knowledge and skills necessary to succeed in the culinary field. Students experience intensive instruction and gain hands-on training using professional equipment with the help of our highly trained faculty in state-of-the-art kitchens. Each year, learners engage in a semester of culinary arts and a semester of baking. The program emphasizes safety and sanitation along with the proper use of equipment and utensils. The curriculum combines theoretical foundations of terminology, culinary skills, safety, and industry standards with practical, hands-on experiences.

Culinary students will earn industry-valued credentials each academic year. In year one (1), students will earn their ServSafe (Food Handler) certification. In year two (2), students will earn their ServSafe (Food Protection Manager) certification, a food and beverage safety training and certificate program administered by the National Restaurant Association. In year three (3) students will earn their ProStart certification. All culinary arts students join their respective Career Technical Student Organization, Skills USA, and are continually challenged as they compete in local, regional, and state-level competitions. Students who successfully complete MCTS's Culinary Arts Academy pathway will also earn dual credits as part of our dual credit arrangement with Mercer County Community College.

Industry Valued Credentials & Certifications	
ServSafe (Food Handler) ServSafe (Food Protection Manager) ProStart Certificate of Achievement	 
Dual Enrollment & Articulation Agreements	
Mercer County Community College	

Culinary Arts Academy

Course Sequence

Core	Grade 9	Grade 10	Grade 11	Grade 12
English Language Arts	English I	English II	English III	English IV
Mathematics (*)	Algebra I	Geometry	Algebra II	<i>HOS111 Culinary Math</i>
				<i>MAT120 Mathematics for Liberal Arts</i>
Science	Biology	Chemistry	Physics	
Social Studies	World History	US History I	US History II	<i>HOS115 Food and Culture</i>
Financial, Economic Business, and Entrepreneurial Business Literacy			Foundations in Personal Finance	
Health, Safety, and Physical Education	Physical Education & Health I	Physical Education, Health II, & Drivers Education	Physical Education & Health III	Physical Education & Health IV
Visual and Performing Arts		Visual & Performing Arts Seminar		<i>HOS116 Techniques of Healthy Cooking</i>
World Languages	Spanish I / Spanish II	Spanish II		
21st Century Life & Careers, OR Career Technical Education	Culinary Arts I	Culinary Arts II	Culinary Arts III	<i>HOS102 Food Prep II</i>
				<i>HOS109 Advanced Culinary Arts*</i>
				<i>HOS210 Applied Kitchen Skills</i>
Technology	Integrated throughout all courses			

Students have the opportunity to earn up to sixty (60) credits at Mercer County Community College, per the requirements in the articulation agreement.

Bolded courses provide an opportunity for students to earn dual enrollment credit on MCTS's campus. See specific course descriptions detailed below.

All post-secondary agreements are reviewed annually.

*All courses **may be subject to change***

Culinary Arts Academy

Course Descriptions

Course Title: Culinary Arts I

Grade Level: 9 Credits: 10

Year one of the Culinary Arts program gives the students an introduction to the food service industry and explores career opportunities in the restaurant and food service industry. Students will learn about food safety, hygiene, and the safe flow of food in their journey to earn their ServSafe Food Handler certification. In addition, this course touches upon culinary math and focuses on cooking principles and taste identification, recipes, measurements, kitchen layout, equipment, tools, and knife skills. Students will prepare and cook soups and stocks, eggs, dairy, and breakfast foods and get an introduction to baking and front-of-house roles and responsibilities. Students will earn their ServSafe (Food Handler) certification in this course. *Upon successful completion of this course as well as the requirements outlined in the post-secondary articulation agreement, students may earn dual credit at MCCC in HOS100, & HOS118.*

Course Title: Culinary Arts II

Grade Level: 10 Credits: 10

Culinary Arts II builds upon the first year by providing a working knowledge of classical culinary techniques through theory and hands-on experiences. Students will focus on an introduction to management, leadership, SMART goal setting, vision, and mission casting. Students are exposed to additional culinary skills through instruction and practice in budgeting, cost control, purchasing, menu management, baking, culinary nutrition (fruits & vegetables), and hot food preparation. Students will master the preparation of soups, stocks, eggs, dairy, and breakfast foods. This course combines a foundation of culinary and management skills to meet industry demands. Students will become acclimated to food services while participating in various events on campus. Students will earn their ServSafe (Food Manager) certification in this course. *Upon successful completion of this course as well as the requirements outlined in the post-secondary articulation agreement, students may earn dual credit at MCCC in HOS101.*

Course Title: Culinary Arts III

Grade Level: 11 Credits: 10

The third year of the Culinary Arts program builds upon the first and second years in providing a working knowledge of classical culinary techniques through theory and hands-on experiences. Students will learn culinary skills through instruction and hands-on learning in hot food preparation, breakfast cookery, cold food preparation, and table service. Additional instruction on how to prepare cakes, pies, and other desserts will occur to round out their baking component. Students will gain real-world experience through the application and utilization of sustainable food products by hosting and operating an in-house restaurant/cafe that will provide services for various events throughout campus. Students will earn their ProStart certification in this course. *Upon successful completion of this course as well as the requirements outlined in the post-secondary articulation agreement, students may earn dual credit at MCCC in HOS217.*

Course Title: Advanced Culinary Arts*

Grade Level: 12 Credits: 5

Comprehensive review of current culinary arts practices, including advanced professional culinary skills, recipes, techniques, and use of ingredients. Involves the practice of a wide variety of classical and modern cooking techniques as well as basic and advanced sanitation measures in kitchen operations. **This course is held on Mercer County Community College Campus. Upon successful completion of this course as well as the requirements outlined in the post-secondary articulation agreement, students may earn dual credit at MCCC in HOS109.*

Health Science Academy

CIP Code: 510000





Program of Study

Pathway Description

The healthcare industry is one of the fastest-growing employment sectors, as well as the number one employer in Mercer County. The overall health of New Jersey's economy and people is clearly tied to the capabilities of this evolving profession. The Health Science Academy will help to prepare students for a wide array of career opportunities in the healthcare field including nurses, surgical technicians, physicians, dentists, pediatricians, physical therapists, dietitians, pharmacists, and other healthcare occupations. Students will learn professional responsibility, how to assess patient needs, workplace-ready skills, medical terminology, and patient safety. This immersive program educates students in the healthcare profession, mental health, community health, and theoretical foundations of nursing and applications of the nursing process.

Throughout the duration of the program, students learn to use a wide range of professional medical equipment in a professional setting, as classrooms are designed to mirror real-world medical offices and institutions. This pathway includes a rigorous series of courses, including Dynamics of Healthcare, Medical Terminology, Anatomy & Physiology I, and Anatomy & Physiology II. All Health Science students join their respective Career Technical Student Organization, HOSA-Future Health Professionals, and are continually challenged as they compete in local, regional, and state-level competitions. Senior year, students have the opportunity to enroll in Mercer County Community College to continue their career progression through dual enrollment courses.

Health Science Academy students earn industry-valued credentials each academic year through their Clinicals, labs, and Emergency Care coursework. Students in year one (1) will earn their OSHA Safety - 10 Hour certification. In year two (2), students will earn their Blood Borne Pathogens certification. In year three (3), students will earn their basic lifesaving skills & CPR certification and Automated External Defibrillator (AED) certification through the American Heart Association. Membership in the Career Technical Student Organization of HOSA (Health Occupation Students of America) is included as an intra-curricular part of this Academy. Students who successfully complete our Health Science Academy pathway will also earn dual credits as part of our dual credit arrangement with Mercer County Community College.

Industry Valued Credentials & Certifications	
OSHA 10-Hour (Healthcare) Blood Borne Pathogens (AHA) CPR / BLS - (AHA) Heart Saver CPR / AED - (AHA)	 
Dual Enrollment & Articulation Agreements	
Mercer County Community College Rochester Institute of Technology	 

Health Science Academy Course Sequence

Core	Grade 9	Grade 10	Grade 11	Grade 12
English Language Arts	English I	English II	English III	English IV
Mathematics (*)	Algebra I or Geometry	Geometry or Algebra II	Algebra II, or AP Pre-Calculus	MAT125 Elementary Statistics I
Science	Biology	Chemistry	Physics	CHE107 General Chemistry
Social Studies	World History	US History I	US History II	PSY101 Intro to Psychology
				PSY207 Developmental Psychology
Financial, Economic Business, and Entrepreneurial Business Literacy			Foundations in Personal Finance	CSW100 College Success & Wellness
Health, Safety, and Physical Education	Physical Education & Health I	Physical Education, Health II, & Drivers Education	Physical Education & Health III	Physical Education & Health IV
Visual and Performing Arts		Visual & Performing Arts Seminar		
World Languages	Spanish I / Spanish II	Spanish II		
21st Century Life & Careers, OR Career Technical Education	Dynamics of Healthcare	Medical Terminology	Anatomy & Physiology I	BIO104 Anatomy & Physiology II*
				BIO201 Microbiology
Interdisciplinary Studies, Health Sciences Internship	Principles of Biomedical Science (PLTW)	Medical Interventions (PLTW)	Emergency & Clinical Care	HPE101 Nutrition
Technology	Integrated throughout all courses			

Students have the opportunity to earn up to sixty (60) credits at Mercer County Community College, per the requirements in the articulation agreement. **Bolded courses** provide an opportunity for students to earn dual enrollment credit on MCTS's campus. See specific course descriptions detailed below. All post-secondary agreements are reviewed annually. All courses **may be subject to change***

Health Science Academy

Course Descriptions

Course Title: Principles of Biomedical Science (PLTW)

Grade Level: 9-10 Credits: 5

Principles of Biomedical Science (PBS) is a full-year high school course in the PLTW Biomedical Science Program. This course serves to provide foundational knowledge and skills in fields such as biology, anatomy & physiology, genetics, microbiology, and epidemiology as well as engage students in how this content can be applied to real-world situations, cases, and problems. Through both individual and collaborative team activities, projects, and problems, students will tackle real-world challenges faced by biomedical professionals in the field. *Upon successful completion of this course as well as the requirements outlined in the post-secondary articulation agreement, students may earn dual credit at RIT in PLTW111**

Course Title: Dynamics of Healthcare

Grade Level: 09-10 Credits: 5

This course provides an orientation to healthcare services and their delivery. It presents an interdisciplinary perspective, focusing on process skills such as critical thinking, ethical reasoning, effective communication, and ways to continue independent learning throughout life. The course shows how all healthcare providers acquire professional competence in dealing with the issues and problems they face as well as the role they play as informed consumers. Students are introduced to the fundamental skill and talent of “caring” and explore the unique needs of clients based on age, condition, developmental status, and culture. Students will “practice” the art of communication as a means to assess these needs. Students will have the opportunity to earn their OSHA Safety 10 Hour certification in this course.

Course Title: Medical Interventions (PLTW)

Grade Level: 10 Credits: 5

Medical Interventions (MI) allows students to investigate the variety of interventions involved in the prevention, diagnosis, and treatment of disease as they follow the lives of a fictitious family. A “How-To” manual for maintaining overall health and homeostasis in the body, the course will explore how to prevent and fight infection, how to screen and evaluate the code in our DNA, how to prevent, diagnose, and treat cancer, and how to prevail when the organs of the body begin to fail. *Upon successful completion of this course as well as the requirements outlined in the post-secondary articulation agreement, students may earn dual credit at RIT in PLTW113**

Course Title: Medical Terminology

Grade Level: 10 Credits: 5

Prerequisite: *Successful completion of or concurrent enrollment in Dynamics of Healthcare.*

Medical Terminology is the study of words that pertain to body systems, anatomy, physiology, medical processes and procedures, and a variety of diseases. It provides a specialized language for the healthcare team to communicate in an articulate and concise manner. This course is designed to give the students a comprehensive knowledge of word construction, definition, and use of terms related to all areas of medical science. The course includes but is not limited to terms related to the anatomy of the human body, functions of health and disease, and the use of language in diagnosing and treating conditions related to all of the human body systems. This course replaces the earlier study of Latin and Greek for future healthcare professionals, as it focuses on words used in the medical field. This course serves as an important prerequisite to Anatomy and Physiology. It is useful in preparing students for every career in allied health. Students will also earn their Blood Borne Pathogens Certification from the American Heart Association in this course. *Upon successful completion of this course as well as the requirements outlined in the post-secondary articulation agreement, students may earn dual credit at MCCC in HPE113.*

Course Title: Emergency & Clinical Care

Grade Level: 11 Credits: 5

Prerequisite: *Successful completion of Dynamics of Healthcare.*

Students will be trained to respond to community emergencies through the American Heart Association first aid course. Topics such as bleeding, head injuries, illnesses, trauma, poisoning, behavioral incidents, splinting, substance abuse, skeletal injuries,

and motor vehicle accidents will be addressed. Professionalism and HIPAA law will be emphasized throughout the course. Guest speakers may be invited to share their experiences and expertise. Throughout this course, the focus will be on understanding many ways that students can make a difference as healthcare providers in their own communities. Students will be trained in various patient care skills, such as turning and positioning, transfer techniques, wheelchair transport, and bed making. Students will also earn their BLS/CPR certification from the American Heart Association in this course and Automated External Defibrillator (AED) certification through the American Heart Association. *Upon successful completion of this course as well as the requirements outlined in the post-secondary articulation agreement, students may earn dual credit at MCCC in HPE105.*

Course Title: Anatomy and Physiology I

Grade Level: 11 Credits: 5

Human Anatomy and Physiology is designed for the advanced biology student contemplating a health-related profession. The intent of the course is to provide an in-depth study of the human body with an emphasis on the interrelationships between form and function at the gross and microscopic levels of the organization. The essential principles that will be presented include basic anatomical and directional terminology, principles of cell biology, and a survey of the Integument, Skeletal system, Muscular system, and Nervous system, including the sensory organs. As the course progresses, students will integrate all parts into the whole, reflecting on the unifying theme of homeostasis. An integral part of the course will be the laboratory component, including dissections of varying higher-order species to simulate human anatomy. *Upon successful completion of this course as well as the requirements outlined in the post-secondary articulation agreement, students may earn dual credit at MCCC in BIO103.*

Course Title: Clinical Research

Grade Level: 11-12 Credits: 5

Introduction to Clinical Research is designed to provide students with a basic understanding of what clinical research is and the scientific principles on which it is based. The course starts with a historical perspective on clinical research and then goes on to explore in detail the following topics: purpose and phases of clinical research, clinical trial development and conduct, ethical and regulatory implications, and the roles and responsibilities of all parties involved in clinical research.

Course Title: Anatomy and Physiology II

Grade Level: 12 Credits: 5

Anatomy and Physiology is the study of the structure and function of the human body. This course follows a sequential development of the major body systems in an organized and structured curriculum. The course is designed to give the students a selective overview of human anatomical structure and an analysis of human physiological principles. Labs will include slide work, dissection of various animals, and studies of the human skeleton. The course will also use computer-simulated dissection. ***Students will be required to take this course on the MCCC campus in their senior year.***

STEM Academy

CIP Code: 140101





Program of Study

Engineering Pathway Description

Science and engineering occupations lead to economic competitiveness in an increasingly globalized world. For any 21st-century economy to prosper, it is essential to maintain a science and engineering workforce of sufficient size and quality. These professionals are also crucial for addressing imminent challenges such as international security, global climate change, and domestic and global health. Of the top 10 highest-paying college majors, seven of them are in engineering.

Our Engineering program engages students in open-ended problem-solving, where they learn to apply the engineering design process to solve real-world problems that make the world a better place through innovation. Students will utilize the same industry-leading technology and software present in some of the world's top companies. They will be immersed in design as they investigate topics such as sustainability, forces, structures, circuit design, manufacturing, and the environment. This pathway includes a rigorous series of courses designed by Project Lead The Way (a nonprofit STEM education program taught across the U.S. and endorsed by the nationally recognized College Board). The courses include Introduction to Engineering Design, Principles of Engineering, Civil Engineering & Architecture, Digital Electronics, and Aerospace Engineering. All STEM Academy students join their respective Career Technical Student Organization, TSA - Technology Student Association, and are continually challenged as they compete in local, regional, and state-level competitions such as Tests of Engineering Aptitude, Mathematics and Science (TEAMS), TSA VEX Robotics Competition, and LEAP (Leadership. Education. Achievement. Personal Growth).

All of these exposures provide our students with the opportunity to learn about various engineering disciplines before beginning postsecondary education or careers. In year one (1), students will begin their journey through the Project Lead The Way curriculum and have the opportunity to earn their Autodesk Fusion 360 Certified User certification. In year two (2), students earn their OSHA 10 certification. Students who successfully complete MCTS's Engineering pathway will also earn dual credits as part of our dual credit arrangement with Mercer County Community College. Students have additional articulated credit opportunities through the Rochester Institute of Technology (RIT).

Industry Valued Credentials & Certifications	
OSHA 10 certification Autodesk Fusion 360 NIMS CNC Mill Operator	 
Dual Enrollment & Articulation Agreements	
Mercer County Community College Rochester Institute of Technology	 

STEM Academy
Engineering Pathway
Course Sequence

Core	Grade 9	Grade 10	Grade 11	Grade 12
English Language Arts	English I	English II	English III	English IV
Mathematics (*)	Algebra I or Geometry	Geometry or Algebra II	Algebra II or AP Pre-Calculus	<i>MAT151 Calculus I</i> <i>MAT201 Probability & Statistics for Science & Engineering</i>
Science	Biology	Chemistry	Physics or Environmental Science	<i>PHY115 University Physics I</i> <i>CHE101 General Chemistry</i>
Social Studies	World History	US History I	US History II	
Financial, Economic Business, and Entrepreneurial Business Literacy			Foundations in Personal Finance	<i>ECO112 Microeconomics</i>
Health, Safety, and Physical Education	Physical Education & Health I	Physical Education, Health II & Drivers Education	Physical Education & Health III	Physical Education & Health IV
Visual and Performing Arts		Visual & Performing Arts Seminar		
World Languages	Spanish I / Spanish II	Spanish II		
21st Century Life & Careers, OR Career Technical Education	Introduction to Engineering Design (Project Lead the Way)	Principles of Engineering (Project Lead The Way)	Civil Engineering & Architecture (Project Lead the Way)	<i>CIV103 Statics</i> Engineering Design & Development / Capstone Course
	AP Computer Science Principles (Project Lead The Way) OR Environmental Sustainability (Project Lead The Way)	Aerospace Engineering (Project Lead the Way)	Digital Electronics (Project Lead The Way)	<i>CIV105 Introduction to Engineering</i> <i>COS101 Introduction to Computer Science</i>
Technology	Integrated throughout all courses			

Students have the opportunity to earn up to sixty (60) credits at Mercer County Community College, per the requirements in the articulation agreement. **Bolded courses** provide an opportunity for students to earn dual enrollment credit on MCTS's campus. See specific course descriptions detailed below. All post-secondary agreements are reviewed annually. All courses **may be subject to change***

STEM Academy
Engineering Pathway
Course Descriptions

Course Title: Introduction to Engineering Design

Grade Level: 9 Credits: 5

Students dig deep into the engineering design process, applying math, science, and engineering standards to hands-on projects. They work both individually and in teams to design solutions to a variety of problems using 3D modeling software and an engineering notebook to document their work. Students will earn their Autodesk Fusion 360 Certified User certification in this course. *Upon successful completion of this course as well as requirements outlined in the post-secondary articulation agreement, students may earn dual credit at MCCC in DRA190 & RIT in PLTW101**

Course Title: Environmental Sustainability

Grade Level: 9-10 Credits: 5

Environmental Sustainability (ES) is a high school-level specialization course in PLTW Engineering. In ES, students investigate and design solutions to solve real-world challenges related to clean drinking water, a stable food supply, and renewable energy. Students are introduced to environmental issues and use the engineering design process to research and design potential solutions. Utilizing the activity-, project-, problem-based (APB) teaching and learning pedagogy, students transition from completing structured activities to solving open-ended projects and problems that require them to develop planning, documentation, communication, and other professional skills. *Upon successful completion of this course as well as requirements outlined in the post-secondary articulation agreement, students may earn dual credit at MCCC in SUS101.*

Course Title: AP Computer Science Principles

Grade Level: 9-10 Credits: 5

Using Python® as a primary tool and incorporating multiple platforms and languages for computation, this course aims to develop computational thinking, generate excitement about career paths in code/computing, and introduce professional tools that foster creativity and collaboration. Computer Science Principles helps students develop programming expertise and explore the workings of the Internet. Projects and problems include app development, visualization of data, cybersecurity, and simulation.

Course Title: Principles of Engineering

Grade Level: 10 Credits: 5

Through problems that engage and challenge, students explore a broad range of engineering topics, including mechanisms, the strength of structures and materials, and automation. Students develop skills in problem-solving, research, and design while learning strategies for design process documentation, collaboration, and presentation. *Upon successful completion of this course as well as the requirements outlined in the post-secondary articulation agreement, students may earn dual credit at RIT in PLTW102**

Course Title: Civil Engineering & Architecture

Grade Level: 10-11 Credits: 5

Students are introduced to important aspects of building and site design and development. They apply math, science, and standard engineering practices to design both residential and commercial projects and document their work using 3D architectural design software. Utilizing the activity-project-problem-based (APB) teaching and learning pedagogy, students will progress from completing structured activities to solving open-ended projects and problems that require them to develop planning, documentation, communication, and other professional skills. *Upon successful completion of this course as well as the requirements outlined in the post-secondary articulation agreement, students may earn dual credit at RIT in PLTW104**

Course Title: Aerospace Engineering

Grade Level: 10-12 Credits: 5

Aerospace Engineering ignites students' learning in the fundamentals of atmospheric and space flight. Aerospace Engineering is one of the specialization courses in the PLTW Engineering program. The course deepens the skills and knowledge of an engineering student within the context of atmospheric and space flight. Students explore the fundamentals of flight in air and space as they bring the concepts to life by designing and testing components related to flight such as an airfoil, propulsion

system, and a rocket. They learn orbital mechanics concepts and apply these by creating models using industry-standard software. They also apply aerospace concepts to alternative applications such as a wind turbine and parachute. Students simulate a progression of operations to explore a planet, including creating a map of the terrain with a model satellite and using the map to execute a mission using an autonomous robot.

Course Title: Computer Integrated Manufacturing

Grade Level: 11 Credits: 5

Manufactured items are part of everyday life, yet most students have not been introduced to the high-tech, innovative nature of modern manufacturing. This course illuminates the opportunities related to understanding manufacturing. At the same time, it teaches students about manufacturing processes, product design, robotics, and automation. *Upon successful completion of this course as well as the requirements outlined in the post-secondary articulation agreement, students may earn dual credit at RIT in PLTW105**

Course Title: Digital Electronics

Grade Level: 11 Credits: 5

From smartphones to appliances, digital circuits are all around us. This course provides a foundation for students who are interested in electrical engineering, electronics, or circuit design. Students study topics such as combinational and sequential logic and are exposed to circuit design tools used in industry, including logic gates, integrated circuits, and programmable logic devices. *Upon successful completion of this course as well as the requirements outlined in the post-secondary articulation agreement, students may earn dual credit at RIT in PLTW 103**

Course Title: Machine Shop Techniques

Grade Level: 11-12 Credits: 5

Introduces students to manufacturing careers, shop safety, and manufacturing operations. Students get first-hand insights on shop safety, mechanical hardware, shop tools, sawing, grinding, layout, hole making, and thread cutting. Hands-on experiences will include the operation of the manual drill press, lathe, milling machine and the setup and preparation of the CNC machines. Students will also be afforded the opportunity to earn their NIMS credential - Machining Level I. This course will be held on the Mercer County Community College Campus. *Upon successful completion of this course as well as the requirements outlined in the post-secondary articulation agreement, students may earn dual credit at MCCC in AMT101.**

Course Title: Environmental Engineering Design & Development - Capstone

Grade Level: 11-12 Credits: 5

Engineering Design and Development (EDD) is the capstone course in the PLTW high school engineering program. It is an open-ended engineering research course in which students work in teams to design and develop an original solution to a well-defined and justified open-ended problem by applying an engineering design process. Students will perform research to select, define, and justify a problem. After carefully defining the design requirements and creating multiple solution approaches, teams of students select an approach and create and test their solution prototype. Student teams will present and defend their original solution to an outside panel. While progressing through the engineering design process, students will work closely with experts and will continually hone their organizational, communication, and interpersonal skills, their creative and problem-solving abilities, and their understanding of the design process.

Shared-Time Program of Study Offerings

Autobody Collision & Repair Technology

CIP Code: 470603

Pathway Description

Auto Body Repair covers a variety of topics, including the use of hand tools, safety practices, and identification, construction, removal, replacement, and repair of automobile body parts. Students learn refinishing as well as full-body painting. They are also exposed to oxy-acetylene, Mig, and aluminum welding. Students are taught frame straightening on state-of-the-art equipment. This program prepares students to apply technical knowledge and skills to repair, reconstruct, and finish automobile bodies, fenders, and external features. This program includes instruction in structure analysis, damage repair, non-structural analysis, mechanical and electrical components, plastics and adhesives, painting and refinishing techniques, and damage analysis and estimating.

Our program is an accredited training program powered by the ASE Education Foundation. Automotive Collision & Repair Technology prepares students to take a series of Automotive Service Excellence (ASE) Certification Tests to gain an entry-level position in the field. Students will also have the skills to move into higher levels of training for more specialized positions by earning industry-valued credentials such as OSHA 10 & stackable ASE Entry Level certifications. The National Institute for Automotive Service Excellence (ASE) Entry-Level certification tests are designed to indicate a satisfactory level of practical knowledge-based readiness for the workforce in candidates seeking a career in the automotive service industry. All students in this program have the opportunity to join their respective Career Technical Student Organization, SkillsUSA. Additionally, upon completion of the program, students may be afforded prior learning assessment (PLA) credit opportunities through Mercer County Community College.

Industry Valued Credentials & Certifications	
OSHA 10 certification Automotive Service Excellence (ASE) Entry Level Certification.	 
Prior Learning Assessment & Articulation Agreements	
Mercer County Community College	

Course Descriptions

Course Title: Autobody Collision & Repair Technology I

Grade Level: 11 Credits: 20

Year one (1) students in the Auto Collision Program learn the basics of automotive structures and construction, as well as safety procedures in and out of a standard auto collision shop. An overview of the use of hand and power tools and their relation to auto body maintenance, along with the basics of metal straightening and framework, painting preparation and fundamentals, sanding, and finishing, provide students with a strong foundational introduction to Auto Collision. Students will earn their OSHA 10 certification in this course along with the opportunity to earn stackable ASE Entry Level certification in Collision Repair & Refinish and Nonstructural Analysis & Damage Repair.

Course Title: Autobody Collision & Repair Technology II

Grade Level: 12 Credits: 20

Year two (2) of Autobody Collision explores refinishing, custom paintwork, repair and replacing structural components such as hoods, doors, bumpers, and fenders. Students will service glass, doors, and leaks and learn all aspects of painting and finishing. This course continues with the opportunity to earn stackable ASE Entry-Level certifications in Painting & Refinishing, Mechanical & Electrical, and Structural Analysis & Damage Repair. Second-year students have the opportunity to engage and interact with local business partners through work-based learning opportunities while learning to demonstrate essential employability and technical skills in the automotive industry. This course will culminate with an ASE Collision Repair & Refinish Certification Test (B2) - Painting and Refinishing.

Automotive Mechanics Technology

CIP Code: 470604

Pathway Description

Automotive Technology is designed to meet the ongoing demand for trained, certified Automotive Technicians. Our program includes high-tech training in the following areas: suspension and steering, brakes, electrical/electronic systems, engine performance, engine repair, automatic transmission, transaxle, manual drivetrain and axles, and heating and air conditioning. Additionally, students are introduced to the workings of computer diagnostics as they relate to modernized transmission systems. These areas combine to give the students exposure to the entire field. Students will work on vehicles using state-of-the-art equipment for routine maintenance, diagnosis, and repair.

Our program is an accredited training program powered by the ASE Education Foundation. Automotive Technology prepares students to take a series of Automotive Service Excellence (ASE) Certification Tests to gain an entry-level position in the field. Students will also have the skills to move into higher levels of training for more specialized positions by earning industry-valued credentials such as OSHA 10 & stackable ASE Entry-Level certifications. The National Institute for Automotive Service Excellence (ASE) Entry-Level certification tests are designed to indicate a satisfactory level of practical knowledge-based readiness for the workforce in candidates seeking a career in the automotive service industry. All students in this program have the opportunity to join their respective Career Technical Student Organization, SkillsUSA. Additionally, upon completion of the program, students may be afforded prior learning assessment (PLA) credit opportunities through Mercer County Community College.

Industry Valued Credentials & Certifications	
OSHA 10 certification Automotive Service Excellence (ASE) Entry Level Certification.	 
Prior Learning Assessment & Articulation Agreements	
Mercer County Community College	

Course Descriptions

Course Title: Automotive Mechanics Technology I

Grade Level: 11 Credits: 20

Year one (1) of the Automotive Technology Program prepares students to apply technical knowledge and skills in the adjustment, maintenance, part replacement, and repair of vehicles and mobile equipment. Includes instruction in the areas of brake systems, engine repair, electrical systems, starting & charging systems, light and driver information systems, motorized accessories and electrical components, general engine performance, and fuel delivery. Students will earn their OSHA 10 certification in this course along with the opportunity to earn stackable ASE Entry-Level certifications in Automobile Service Technology, Suspension and Steering, Brakes, Engine Repair, Electrical/Electronic Systems, Maintenance and Light Repair, and Engine Performance.

Course Title: Automotive Mechanics Technology II

Grade Level: 12 Credits: 20

Year two (2) of the Automotive Technology includes overall emissions systems, manual drivetrain, four-wheel drive, hydraulics, front and rear wheel drive, automatic and manual transmissions, and heating and cooling systems. This course continues with the opportunity to earn stackable ASE Entry-Level certifications in Drivetrain and Axles, Transmission/Transaxle, and Heating and Air Conditioning. This course will culminate with an ASE Auto Maintenance and Light Repair Certification Test (G1). Second-year students have the opportunity to engage and interact with local business partners while learning to demonstrate essential employability and technical skills in the automotive industry.



Carpentry

CIP Code: 460201

Pathway Description

This program prepares individuals to apply technical knowledge and skills to lay out, cut, fabricate, erect, install and repair wooden structures and fixtures using hand and power tools. The program includes instruction in technical mathematics, framing, construction materials, and selection, job estimating, blueprint reading, foundations, roughing-in, finish carpentry techniques, and applicable codes and standards. A structured assembly of theory and practical tasks is presented in order to provide the instruction and training required for entry-level occupational careers in the field of Carpentry Trades.

Our program has articulated with the Northeast Carpenters Apprenticeship Fund (NCAF), which provides an opportunity for our students to earn Career Connections Certificates towards apprenticeship with the NCAF or any other Eastern Atlantic States Regional Council of Carpenters' Training Fund located in another geographic area of the Eastern Atlantic States Regional Council of Carpenters. Upon meeting apprenticeship eligibility criteria, students have the opportunity to earn advanced placement within the apprenticeship programs for all competencies 'successfully mastered,' per the articulation agreement. All students in this program have the opportunity to join their respective Career Technical Student Organization, SkillsUSA. Students desiring to earn articulated dual credit have the opportunity to present all three Career Connections Certificates in conjunction with the respective Project Books to earn up to sixteen (16) credits from Thomas Edison State University.

Industry Valued Credentials & Certifications	
OSHA 10 certification	
Dual Enrollment & Articulation Agreements	
Thomas Edison State University	

Course Descriptions

Course Title: Carpentry I

Grade Level: 11 Credits: 20

In addition to obtaining OSHA 10 certification, first-year Carpentry students learn the basics of general building construction, such as measuring, marking, and layout, and gain the skills to produce work using hand and power tools. Project-based learning results in the construction of a tote box, birdhouse, step stool, bookcase, toolbox, and a saw horse to more complex projects such as a picnic table, skateboard ramp, or a shed with a gable roof. Students are also exposed to career opportunities, job-site etiquette, procedures, and safety. Throughout the year, one student will experience Project Book 1 and Project Book 2 in order to earn Career Connections certificates.

Course Title: Carpentry II

Grade Level: 12 Credits: 20

In the second year of carpentry, our students experience the modern workplace and dive into deeper construction concepts such as site layout, floor and wall framing, roof framing, sheathing, and installation of doors and windows, drywall, stairs, interior trim, and finishing. Year two students will complete their experience in Project Book 2 and Project Book 3 to obtain their final Career Connections Certificates. In addition, students will be afforded the opportunity to visit apprenticeship training facilities and be connected to internship opportunities and work-based learning experiences with our local business partners.

Computer Game Programming

CIP Code: 110201

Pathway Description

Computer Game Programming prepares students with the knowledge and skills necessary for the challenging and rewarding field of game programming and the video game industry. Game programming and development courses reflect the dynamic and ever-evolving nature of the technology utilized in game development and related industries. Students gain the technical expertise necessary for realizing and enabling the creative vision of game designers. This program will prepare our students for a number of career pathways, such as game designer, software engineer, artificial intelligence programmer, graphics engineer, and user interface scripter.

Our program prepares individuals for the application of computer programming to the development of computer games. Our students will engage in topics such as character and story development, computer programming, computer graphics, game design, game physics, human-computer interaction, human-centered design, and usability. Students will articulate and solve complex logic problems associated with programming interactive game systems and apply effective industry-standard design, production, and testing techniques through all phases of game development. All Computer Game Programming students join their respective Career Technical Student Organization, Technology Student Association, and have the opportunity to participate in our Esports Club. Students will earn industry-valued credentials in Oracle Java Programming, Android Certified Application Developer, and Unity Certified User. **NOTE* Students are expected to have a strong background in Algebra and be concurrently enrolled in Algebra II or equivalent.*

Industry Valued Credentials & Certifications	
Oracle Java Programming Android Certified Application Developer Unity Certified User	

Course Descriptions

Course Title: Computer Game Programming I

Grade Level: 11 Credits: 20

This course will prepare students to create, execute, and document clear and effective code in programming languages in order to prepare them to earn their Oracle Java Programmer certification. Through resources such as Project Lead The Way, Unity Learn, and Roblox, students experience game engines relevant to professional game development. Integrate methods and techniques for constructing realistic, dynamic gameplay experiences, including game AI, game physics, 2D and 3D, and interface design. Students will articulate and solve complex logic problems associated with programming interactive game systems through the UnityLearn Platform and apply effective industry-standard design, production, and testing techniques through all phases of game development in order to earn their Unity Certified User certificate.

Course Title: Computer Game Programming II

Grade Level: 12 Credits: 20

In year two (2), students will develop effective industry-standard design, production, and testing techniques through all phases of game development and adhere to the standards and expectations of the professional game development community, respect for all people and cultures, ethical decision-making, and the ability to function effectively as a member of a team. Students will learn Android Studio for Android app development and earn their Android Certified Application Developer certificate.

Cosmetology

CIP Code: 120401

Pathway Description

Cultivate your eye for detail and aesthetics with Cosmetology. This incredibly creative field presents endless opportunities in the wonderful world of hairstyling, barbering, manicuring, and modern-day spa services. This program of study equips students with the skills necessary to succeed by presenting instruction in classrooms that are equipped with pedicure spas, skincare machines, barbering chairs, and more. This program prepares individuals to cut, trim, and style scalp, facial, and body hair; apply cosmetic preparations; perform manicures and pedicures; massage the head and extremities; and prepare for practice as licensed cosmetologists in specialized or full-service salons.

The program includes instruction in hair cutting and styling, manicuring, pedicuring, facial treatments, shampooing, chemical applications, aesthetics, shop management, sanitation and safety, customer service, and applicable professional and labor laws and regulations. Additional educational enrichment opportunities are provided through community service activities such as days of pampering for senior citizens, participation in school productions, and the Career Technical Student Organization's annual SkillsUSA competition. Preparation for the New Jersey licensing examination is provided. Licensing requirements include a high school diploma or equivalent, 1,000 consecutive hours of cosmetology instruction, successful completion of an accredited cosmetology program, and a passing score on the required state licensing examination.

Industry Valued Credentials & Certifications	
OSHA 10 certification NJ State Board Cosmetology License	 

Course Descriptions

Course Title: Cosmetology I

Grade Level: 11 Credits: 20

Cosmetology students spend both years of the program preparing for the NJ State Board Cosmetology Exam, including the practical, hands-on portion of the test, as well as the written exam. Year one includes properties of the hair and scalp, hair shaping, nail structure and disease, hair coloring and design, facials, skin care, chemical and electrical treatments, salon professionalism, and career development. Students will complete the OSHA 10-Hour General Industry (Cosmetology) course and receive an OSHA 10-Hour General Industry card from the OSHA Training Institute (OTI)—a credential that holds value for a lifetime. Students cover the first half of the required 1000 hours of training during this year.

Course Title: Cosmetology II

Grade Level: 12 Credits: 20






Year two (2) is designed to prepare students for the N.J. State Cosmetology/Hairstyling License and a professional career in cosmetology or one of its related areas and focuses on hair, skin, and nail care for all customers. This course will include safety issues and practices, professional image, sanitation, hair and scalp care, hair shaping and barbering skills, wet hairstyling, thermal styling, chemical applications, manicuring, Pedi curing, nail tech services, skin care, facials, and make-up application, superfluous hair removal, salon business, and related sciences. The students must also complete the required 1000 hours of study and pass the course in order to be eligible to take the state board exam.

Criminalistics & Criminal Science

CIP Code: 430104

Pathway Description

This program focuses on the application of clinical and criminal laboratory science, investigative techniques, and criminology to the reconstruction of crimes and the analysis of physical evidence. Instruction in laboratory science, laboratory procedures, criminology, police science, evidentiary testing and analysis, computer applications, record-keeping, reconstruction techniques, evidence handling and storage, and applications to specific types of evidence and crimes. Students will earn industry-valued credentials from the American Red Cross in CPR/BLS and Bloodborne Pathogens, HeartSaver CPR/AED, and First Aid from the American Heart Association. All students in this program have the opportunity to join their respective Career Technical Student Organization, SkillsUSA. Additionally, students who successfully complete this program have the opportunity to earn prior learning assessment (PLA) credits through articulation with Mercer County Community College and Delaware Valley University.

Industry Valued Credentials & Certifications	
OSHA 10 certification CPR/BLS - American Red Cross HeartSaver CPR/AED - AHA	  
Dual Enrollment & Articulation Agreements	
Delaware Valley University Mercer County Community College	 

Course Descriptions

Course Title: Criminalistics & Criminal Science I

Grade Level: 11 Credits: 20

The first year of the Criminalistics and Criminal Science program consists of crime scene analysis, including the collection and analysis of physical evidence, organic and inorganic microscopic analysis, along with trace analysis, such as hairs, fibers, paint, metals, and soils. A police procedural component are woven into the weekly activities, exploring laws and the corrections and court system and the historical context behind each. Students will have the opportunity to earn industry-valued credentials from the American Red Cross in CPR/BLS in this course and Bloodborne Pathogens certificates from the American Heart Association. In addition, students will also receive OSHA Safety-10 training.

Course Title: Criminalistics & Criminal Science II

Grade Level: 12 Credits: 20

Year two (2) covers controlled substances, forensic toxicology, serology, DNA analysis, fingerprinting, document and voice analysis, and computer forensics. Additionally, the class explores fire and explosion investigation, tool and firearm marks/impressions, international security, and special. These lessons culminate in career lessons on employability, careers related to Criminalistics and Criminal Science, and the skills necessary for success. Students will also have the opportunity to earn their credentials in HeartSaver CPR/AED and First Aid from the American Heart Association in this course.

Culinary Arts

CIP Code: 120503

Pathway Description

Our program prepares students for a professional role in the fast-growing commercial food industry in both the culinary and baking fields. Students begin with basic food preparation skills and advance to areas such as purchasing, managing, and leading. The comprehensive program teaches students to master the knowledge and skills necessary to succeed in the culinary field. Students experience intensive instruction and gain hands-on training using professional equipment with the help of our highly trained faculty in state-of-the-art kitchens. Each year, learners engage in culinary and baking components. The program emphasizes safety and sanitation along with the proper use of equipment and utensils. The curriculum combines theoretical foundations of terminology, culinary skills, safety, and industry standards with practical, hands-on experiences.

Culinary students will earn industry-valued credentials each academic year. In year one (1), students will earn their ServSafe (Food Handler) certification. In year two (2), students will earn their ServSafe (Food Protection Manager) certification and ProStart certification, a food and beverage safety training and certificate program administered by the National Restaurant Association, and the students will earn their ProStart certification. The program is accredited by ANSI and the Conference for Food Protection. All culinary arts students join their respective Career Technical Student Organization, Skills USA, and are continually challenged as they compete in local, regional, and state-level competitions. Students who successfully complete this program have the opportunity to earn prior learning assessment (PLA) credits through articulation with Mercer County Community College.

Industry Valued Credentials & Certifications	
ServSafe (Food Handler) ServSafe (Food Protection Manager) ProStart Certificate of Achievement	 
Dual Enrollment & Articulation Agreements	
Mercer County Community College	

Course Descriptions

Course Title: Culinary Arts I

Grade Level: 11 Credits: 20

Year one (1) of the Culinary Arts program gives the students an introduction to the food service industry and explores career opportunities in the restaurant and food service industry. Students will learn about food safety, hygiene, and the safe flow of food in their journey to earn their ServSafe Food Handler certification. In addition, this course touches upon culinary math and focuses on cooking principles and taste identification, recipes, measurements, kitchen layout, equipment, tools, and knife skills. Students will prepare and cook soups and stocks, eggs, dairy, and breakfast foods and get an introduction to baking and front-of-house roles and responsibilities.

Course Title: Culinary Arts II

Grade Level: 12 Credits: 20

The second year of Culinary Arts involves marketing and menu management, purchasing and food costing, sustainability, and nutrition. Students will expand upon their baking experience by diving into yeasts, bread, cakes, pies and desserts, banquet, short order, and ala carte preparations. Students will participate and gain valuable real-world experiences by providing restaurant services at various events throughout campus. By the end of this course, students will earn their ServSafe Food Protection Manager and ProStart certifications.




Diesel Technology

CIP Code: 470605

Pathway Description

This program is designed to prepare students for entry into the diesel and truck career field. Students enrolled in this program will learn the theory, functions, diagnostics, and repair of diesel engines and natural gas fuel systems. Using industry-standard tools and equipment, students will diagnose and repair electrical, mechanical, and fuel delivery systems on diesel engines, trucks, and trailers. Upon successful completion of the program, the graduate should possess knowledge and versatility in the diesel and truck repair field to qualify for entry-level positions as a mechanic, technician, mechanic's helper, or fleet service technician in truck dealerships, fleet maintenance departments, private repair enterprises, or franchised truck repair organizations.

In addition to the technical training, a critical aspect of our program is developing the professional skills that are required by our employers. Our program is accredited by the Automotive Service Excellence Education Foundation by completing its rigorous five-step accreditation process. Our students will need to demonstrate skill proficiency through a series of ASE Entry Level assessments leading them to stackable industry-valued credentials. Entry-level certification exams are integrated into each course in topics such as Brakes, Diesel Engines, Electrical/Electronic Systems, Suspension & Steering, and Inspection Maintenance & Minor Repair. In addition to the industry-valued credentials and participation in their respective Career Student Technical Organization, SkillsUSA. Students who successfully complete this program may be afforded prior learning assessment (PLA) credits with Mercer County Community College.

Industry Valued Credentials & Certifications	
OSHA 10 certification Automotive Service Excellence (ASE) Entry Level Certification	  Powered by ASE Education Foundation
Dual Enrollment & Articulation Agreements	
Mercer County Community College	

Course Descriptions

Course Title: Diesel Technology I

Grade Level: 11 Credits: 20

This course provides the student with basic knowledge and skills in light, medium, and heavy-duty truck safety, maintenance, and inspections. Students will experience hands-on lab activities related to heavy-duty diesel engines, power train units, steering and suspension components, brakes, electrical, and fuel systems, as well as developing oxy acetylene and arc welding skills. Additionally, students will take an intense OSHA 10 course which introduces students to the importance of maintaining a healthy and safe work environment. After year 1 of Diesel Mechanics Technology, students will be able to identify, avoid, control, and prevent job site hazards. Students receive an OSHA 10 card after completing Diesel Mechanics Technology I. Upon successful completion of this course, students have the opportunity to receive "Entry-Level ASE" certificates in Brakes and Electrical/Electronic Systems.

Course Title: Diesel Technology II

Grade Level: 12 Credits: 20

Year two (2) of this program provides a deeper exposure to diesel engines, drive trains, properly checking suspension and steering systems, and how to inspect A/C compressor drive belts, pulleys, and tensioners. They will also be able to verify the proper belt alignment and hydraulics related to heavy vehicles and mobile equipment. Students will be able to successfully inspect, maintain, and repair vehicles and machinery used in construction, farming, railways, and road transportation. Upon successful completion of this course, students have the opportunity to receive "Entry-Level ASE" certificates in Diesel Engines, Suspension & Steering, and Inspection Maintenance and Minor Repair.



Electrician

CIP Code: 460302

Pathway Description

This program prepares students for the principles of residential and commercial electrical systems. Students learn the technical knowledge and skills necessary to install, operate, maintain, and repair residential, commercial, and industrial electrical systems. Students will work with DC and AC motors, controls, electrical distribution panels, circuit diagrams using the National Electrical Code (NEC), and blueprint reading. Students are exposed to renewable energy and cost-benefit analysis of installation. At the completion of this program, students may obtain employment as an electrical apprentice, electrician helper, electrician, or journeyman electrician.

In addition to hands-on industry training, students have the opportunity to obtain their OSHA 10 certification. This industry-recognized certificate provides entry-level electricians with a general awareness of recognizing and preventing hazards on a construction site. All students join their respective Career Technical Student Organization, Skills USA, and are continually challenged as they compete in local, regional, and state-level competitions. In addition to the industry-valued credentials, students who successfully complete this program may be afforded prior learning assessment (PLA) credits with Mercer County Community College.

Industry Valued Credentials & Certifications	
OSHA 10 certification	
Dual Enrollment & Articulation Agreements	
Mercer County Community College	

Course Descriptions

Course Title: Electrician I

Grade Level: 11 Credits: 20

Year one (1) students begin an emphasis on proper job safety on their way to earning the OSHA 10 Industry Training Certificate. Students learn basic skills about installing, designing, troubleshooting, and maintaining electrical systems, devices, and equipment for commercial wiring. The students learn how to install receptacles, switches, and lighting on commercial buildings. While working with the various circuits for a dwelling, the students learn to work safely around electricity and to use the proper tools for commercial wiring. The students are taught related math and formulas related to the trade.

Course Title: Electrician II

Grade Level: 12 Credits: 20

Year two (2) goes into a deeper dive for many of the skills covered in year one but with a focus on commercial buildings and their construction. Students learn about distribution equipment, green and renewable energy, plus industry employability and professional skills. Students are also provided the opportunity to take advantage of work-based learning opportunities with local business partners as a part of this program.






Graphic Design

CIP Code: 500409

Pathway Description

Graphic Design gives you an ideal combination of design knowledge and technical skills to begin your entry-level career or lay the cornerstone for further education. Through this program, students will get hands-on experience using the most up-to-date technology and techniques for graphic and communication design. Students will produce their own print and digital portfolios to help showcase their work to future employers. Students learn illustration, layout and design, painting, drawing, airbrush, and computer graphic skills. They produce drawings or illustrations for advertisements, books, magazines, posters, album and video covers, 2-D & 3-D designs, and brochures.

Throughout our program, each student prepares a portfolio of work for application purposes into employment or higher education. All graphic arts students join their respective Career Technical Student Organization, Skills USA, and have the opportunity to compete in local, regional, and state-level competitions. Students will earn industry-valued credentials such as OSHA 10 certification, and Adobe Certified Professional certificates in Illustrator, and Photoshop. Students who successfully complete this program may be afforded prior learning assessment (PLA) credits with Mercer County Community College and Delaware Valley University.

Industry Valued Credentials & Certifications	
OSHA 10 certification Adobe Certified Professional - Illustrator Adobe Certified Professional - Photoshop	  
Dual Enrollment & Articulation Agreements	
Delaware Valley University Mercer County Community College	 

Course Descriptions

Course Title: Graphic Design I

Grade Level: 11 **Credits: 20**

Students in the first year of the Graphic Design program will learn several professional-level software from the Adobe Suite, such as Illustrator, Photoshop, and Indesign. Students will utilize real-world projects that encompass drawing for industry, photo manipulation, and page layout, among others. All first-year students receive their OSHA 10 certification. Upon successful completion of year one (1) students will have the opportunity to earn their Adobe Certified Professional certificate in Illustrator

Course Title: Graphic Design II

Grade Level: 12 **Credits: 20**

Second-year Graphic Design students delve deeper into the Adobe software but with a focus on more long-term projects that involve a higher level of technical skill and professionalism. Professional portfolios will be developed for proof of work and career preparedness. Upon successful completion of year two (2) of the program, students will earn their Adobe Certified Professional certificate in Photoshop.




Heating, Ventilation, Air Conditioning & Refrigeration Technology (HVAC-R)

CIP Code: 470201

Pathway Description

This program prepares students with the fundamentals of the heating and air conditioning industry. Students learn about heating and cooling cycles and electricity, including electrical and electronic controls, heating systems, heat pumps, system layout, and design. Students also learn how to install, service, and repair HVAC systems using modern techniques and tools. Students will learn about residential and commercial HVAC systems and become engaged with refrigerant cycles, pressure temperature measurements and charging, sequence of operation, furnace ignition assemblies, heat loads, controls, and troubleshooting. The students will experience solar water heating systems and other green HVAC energy systems.

Students will earn industry-valued credentials such as OSHA 10 certification, Flexible Gas Line (TracPipe), the Universal EPA certification, and refrigerant safety certification (R410A). In addition to certifications, students will be enrolled in Interplay Learning, the Department of Labor registered pre-apprenticeship program, earning 144 hours in related technical instruction credit, which counts towards an approved apprenticeship program in New Jersey. All HVAC-R students join their respective Career Technical Student Organization, Skills USA, and compete in local, regional, and state-level competitions. Students who successfully complete this program may be afforded prior learning assessment (PLA) credits with Mercer County Community College.

Industry Valued Credentials & Certifications	
OSHA 10 certification Flexible Gas Line certification Universal EPA certification	 
Dual Enrollment & Articulation Agreements	
Mercer County Community College	

Course Descriptions

Course Title: Heating, Ventilation, Air Conditioning & Refrigeration Technology (HVAC-R) I

Grade Level: 11 Credits: 20

Year one (1) students begin preparation for the Universal EPA Exam, which is taken early in the second year of the program. The year begins with an introduction to the EPA, an overview of tools, and an introduction to the basic principles of heating and cooling. Students will be engaged in refrigerant cycles, pressure temperature measurements and charging, sequence of operation, furnace ignition assemblies, heat loads, controls, and troubleshooting. The students will experience an introduction to solar water heating systems. During this year, the students will also be engaged in training and assessment, leading them to the field-required Flexible Gas Line certification, and obtaining OSHA 10 certification.

Course Title: Heating, Ventilation, Air Conditioning & Refrigeration Technology (HVAC-R) II

Grade Level: 12 Credits: 20

Year two (2) continues its focus on Electrical Systems and the use of electric power and teaches students how to identify and install electric thermostats, wiring relays protection devices, and capacitors. They will learn to wire and replace all relevant types of motors, from split-phase to shaded pole, to three-phase and capacitor start motors, plus the drawing of schematic wiring diagrams. The Universal EPA certification is an industry technical skills assessment certification that will make students a valuable entity able to install, service, repair, and maintain a wide variety of heating and cooling systems. Students will also earn their R410A Refrigerant safety certification in this course.





Horticulture & Turf Care Management

CIP Code: 010605

Pathway Description

This program prepares students in the design, maintenance, and management aspects of landscaping and turf management, from sports turf installation and maintenance to commercial property landscaping management. Students learn to plan for and deal with climate and moisture, how to design landscape and hardscape effects for various conditions and settings such as urban, suburban, and rural, and how to accommodate climate and weather. Students study greenhouse management, fruit and vegetable production, and propagate and grow bedding plants. Upon completion of this program, students may be able to secure employment as landscape architects, sports turf maintenance, landscape constructs, or golf course superintendents.

Students will earn industry-valued credentials such as OSHA 10 - certification. Our program model combines the strengths of classroom education, work-based experiential learning, and career preparation and leadership through the Career Technical Student Organization - Future Farmers of America (FFA). Students who successfully complete this program may be afforded prior learning assessment (PLA) credits with Mercer County Community College. Students are also afforded the opportunity of earning thirty three (33) articulated credits at Delaware Valley University.

Industry Valued Credentials & Certifications	
OSHA 10 certification	
Dual Enrollment & Articulation Agreements	
Delaware Valley University Mercer County Community College	  

Course Descriptions

Course Title: Horticulture & Turf Care Management I

Grade Level: 11 Credits: 20

Year one (1) of the Horticulture and Turf Care Management Program combines environmental science, such as soil and plant care and identification with landscape design (patio construction, retaining walls) with a business component to produce a student with the tools to become an agriculturist, arborist, florist, turf care specialist, professional landscaper, or landscape designer. First-year students obtain their OSHA 10 certification, along with an overview of the various career pathways within this industry. Students learn tool identification and professional use, plant diseases, disorders and care, lawn and turf maintenance, seed, weed, soil identification and care, lawn covers, sod, mulch, trees, shrubs, and pest management.

Course Title: Horticulture & Turf Care Management II

Grade Level: 12 Credits: 20



Year two (2), the students will expand upon principles and industry skills from Horticulture & Turf Care Management I. The second-year students will learn about arboriculture, interior plantscape, business operations, service contracts and customer relations, landscape, and site planning, drain tile construction, and property beautification. Students will also be introduced to natural resource management and sustainability.

Pre-Nursing
CIP Code: 511699

Pathway Description

This course provides an introduction to the profession of nursing. Students will learn the basics of working in the healthcare field. The curriculum includes study in anatomy and physiology, medical terminology, human growth and development, and disease processes. Students will study body structure and function (anatomy and physiology) in depth. These teachings will be enhanced using laboratory exercises and hands-on demonstrations. Additionally, students will learn the history of medicine, communication skills, and legal and ethical issues of the healthcare worker. Students experience the nature and fundamentals of nursing and skills that apply to the nursing field, including the organization of the human body, patient hygiene needs, nutritional needs, care of surgical patients, vital signs, and medical terminology. While learning core information, students will further explore the nursing field through informed job shadowing or work-based experiences that will be coordinated with local sites, as well as a variety of healthcare facilities in the county.

Students will have the opportunity to obtain various industry-valued certifications that are necessary to function effectively in nursing, such as Bloodborne Pathogens certificate, Cardiopulmonary Resuscitation (CPR), Automated External Defibrillator (AED) from the American Heart Association, and First Aid. All Pre-Nursing students join their respective Career Technical Student Organization, HOSA-Future Health Professionals, and are continually challenged as they compete in local, regional, and state-level competitions. Students who successfully complete this program may be afforded prior learning assessment (PLA) credits with Mercer County Community College.

Industry Valued Credentials & Certifications	
Bloodborne Pathogens Certificate Cardiopulmonary Resuscitation (CPR) Certification / BLS from the American Red Cross Association Heart Saver CPR / (AED) Certification from the American Heart Association	
Dual Enrollment & Articulation Agreements	
Mercer County Community College	

Course Descriptions

Course Title: Pre-Nursing I

Grade Level: 11 Credits: 20

During the first year of the program, students will study body structure and function in depth. These teachings will be enhanced using laboratory exercises and hands-on demonstrations. Students investigate the history of medicine, communication skills, medical terminology, legal and ethical issues of the healthcare worker, as well as cultural diversity as it applies in healthcare. Students will have the opportunity to obtain various certifications that are necessary to function effectively in nursing, such as CPR (Cardiopulmonary Resuscitation) and First Aid.

Course Title: Pre-Nursing II

Grade Level: 12 Credits: 20

During the second year of the program, students will learn the basic overall concepts and skills that apply to the nursing field, including the importance of other health-related disciplines and their direct relationship to nursing. While learning the basic core information, students will further explore the nursing field through informed job shadowing or coordinated work-based learning experiences. Experiences may include areas, such as various areas within the acute care facility (hospital), long-term care facilities, fire and rescue, same-day surgery centers, medical offices, and schools. Students will also earn their Automated External Defibrillator (AED) certification in this course.

Welding Technology

CIP Code: 480508

Pathway Description

Over the course of two years, the Welding Technology program will help to develop student skills in the following areas: shielded metal arc welding, gas metal arc welding, gas tungsten arc welding, plasma arc welding, and oxyfuel gas cutting. Students will be able to prepare parts from simple sketches or blueprints, prepare welded joints from welding symbol information, and make minor external repairs to equipment and accessories.

Our Welding Technology program follows the AWS (American Welding Society) SENSE program. Which will provide students with the opportunity to achieve various AWS SENSE certifications. Students can use their acquired skills in many career paths such as Fabrication, Pipe Welding, Industrial Maintenance, Weld Inspector, or post-secondary education. The program involves both hands-on and theory lessons, building the students' knowledge based on math, measurements, welding processes, and design.

All students will have the opportunity to join their respective Career Technical Student Organization, SkillsUSA, and experience local, state, and national competitions. Throughout this program, students will earn stackable credentials on their AWS Certified Welder wallet card. Prior to program completion, in year two (2), students will take the American Welding Society Certified Welder Test and submit an application to AWS in order to qualify and become an AWS Certified Welder.

Industry Valued Credentials & Certifications	
OSHA 10 certification AWS Certified Welder	 

Course Descriptions

Course Title: Welding Technology I

Grade Level: 11 Credits: 20

This course will provide students with an introduction to the welding field. Students will spend time in class studying terminology, safety, set-up, and shut-down of all welding equipment and related tools of the trade. Time will also be spent in the welding shop so students will get hands-on experiences with oxy-acetylene cutting, welding, and brazing along with arc welding. First-year Welding students obtain their OSHA 10 certification and stackable wallet card certificates such as Shielded Metal Arc Welding (SMAW) and Gas Metal Arc Welding (GMAW).

Course Title: Welding Technology II

Grade Level: 12 Credits: 20

This course will build on skills learned in Welding I. A higher percentage of time will be spent in the shop learning Arc Welding Theory through Gas Tungsten Arc Welding (GTAW) and Gas Metal Arc Welding (GMAW). These welding skills will be developed by progressing from flat, horizontal, vertical, and overhead positions. In addition to this students will learn metal fabrication, pipe welding in the horizontal rolled, horizontal fixed, and vertical fixed position, and mechanical fastening. Students will have the opportunity to earn additional stackable wallet card certificates in Flux-Cored Arc Welding (FCAW), and Gas Tungsten Arc Welding (GTAW). This course will provide students with further opportunities to earn their CNC Thermal Cutting certification and culminate as the students take the American Welding Society Welding Certification Test.

Academics and Elective Offerings

English

Course Title: English I

SCED Code: 01001

Grade Level: 9 Credits: 5

In 9th-grade English, students will critically read grade-level works of literature and informational texts. Students will closely analyze for literal and inferred meaning and support their thinking by effectively citing textual evidence. Students will expand their literary worldview through a review of classic and contemporary literature that represents a variety of time periods and cultures. There will be an increased emphasis on building a strong academic and domain-specific vocabulary. Students will acquire general academic words from content-specific texts and independently integrate domain-specific words into reading, writing, and speaking, building up to college and career readiness. The students will develop the skill, fluency, and concentration to produce high-quality writing, as well as the capacity to revise and edit their writing, as well as peer writing, over multiple drafts. Students will write routinely over shorter and extended time frames for a range of tasks, purposes, and audiences, including research writing, argumentative writing, creative writing, and explanatory writing. Students will be challenged to initiate and participate effectively in a range of collaborative groups and participate in discussions with peers on grade 9 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. Students of various backgrounds, interests, and skills will be empowered with the ability to begin to exercise their critical thinking and problem-solving skills in order to enrich their personal and professional lives.

Course Title: English II

SCED Code: 01002

Grade Level: 10 Credits: 5

In 10th-grade English, students will closely and critically read increasingly complex works of literature and informational texts. Students will continue to analyze, infer, and support their thinking by citing textual evidence, developing an increased sophistication in a choice of textual support and paraphrasing. Students will build on prior learning through ongoing review and synthesis of classic and contemporary literature that represents an increasing variety of time periods and cultures. There will be a continued emphasis on building a strong academic and domain-specific vocabulary. Students will acquire general academic words from content-specific texts and independently integrate domain-specific words into reading, writing, and speaking. The students will demonstrate increased complexity in their ability to produce high-quality writing, as well as the capacity to revise and edit their writing over multiple drafts. Students will continue to write routinely over shorter and extended time frames for a range of tasks, purposes, and audiences, including research writing, argumentative writing, creative writing, and explanatory writing. Students will be challenged to make choices and take ownership in a range of collaborative groups and participate in discussions with peers on grade 10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. Students of various backgrounds, interests, and skills will continue to build their critical thinking and problem-solving skills to grow personally, academically, and in their career programs.

Course Title: English III**SCED Code: 01003****Grade Level: 11 Credits: 5**

In 11th-grade English, students will continue to closely and critically read complex works of literature, making increasingly sophisticated personal connections, connections to other texts, and/or global/historical connections when relevant. Students will synthesize multiple texts to identify shared topics or themes and identify multiple themes/main ideas in a single literary work or informational text. Students will determine what the text actually means, considering satire, sarcasm, irony, and understatement, describing how an author uses various rhetorical strategies to advance that purpose, and analyzing how and why those choices contribute to the overall effectiveness of the text. There will be an increased emphasis on building strong academic and domain-specific vocabulary to prepare students for college placement exams and advanced career options as well as to improve grade-level comprehension. Students will continue to develop their reading and writing skills and apply a greater depth of knowledge and analysis as they progress through the year. Students will be expected to write regularly, for a variety of purposes, and to have developed expertise in using technology proficiently for production, publication, and collaboration. Historical documents and primary texts will be discussed, analyzed, and evaluated. Students will write about topics of increased complexity, drawing from these documents. By grade 11, students will have developed a shared culture and classroom community and will continue to problem-solve, create, and think collaboratively in extended projects and discussions. This collaboration will start to mirror the expectations of the workplace and higher education, preparing students for college and careers. *Upon successful completion of this course as well as the requirements outlined in the post-secondary articulation agreement, students may earn dual credit at MCCC in ENG101.*

Course Title: English IV**SCED Code: 01004****Grade Level: 12 Credits: 5**

In 12th-grade English, students will continue to closely and critically read increasingly sophisticated works of literature, using their wealth of cross-curricular knowledge to make relevant and pertinent global/historical connections. Students will independently research and synthesize academic resources and primary texts to support a position or make a claim. Students will continue to analyze elements of satire, sarcasm, irony, and understatement. By building a repertoire of college and career-level academic and domain-specific vocabulary, students will build a strong foundation to support their future goals. Students will continue to develop their reading and writing skills and be challenged to apply an even greater depth of knowledge and analysis as they progress through the year, working to college-level/post-secondary reading and writing. Students will be expected to continue to write regularly and for a variety of purposes and demonstrate expertise in using technology proficiently for production, publication, and collaboration. Historical documents and primary texts will be discussed, analyzed, and evaluated. Students will write about topics of increased complexity, drawing from these documents. By grade 12, students will have developed a shared culture and classroom community, and problem-solving, creation, and collaboration will mirror the environments of the workplace and college, demonstrating that students are ready to meet the demands and expectations of career and higher education. *Upon successful completion of this course as well as the requirements outlined in the post-secondary articulation agreement, students may earn dual credit at MCCC in ENG102.*

Comprehensive Health and Physical Education

Course Title: Health & PE I

SCED Code: 08101

Grade Level: 9 Credits: 5

In order for students to pursue a successful career and technical education, they must lead a healthy and active lifestyle. Our physical education program addresses the issues of the total body, physically and mentally. The curriculum is intertwined so that the concepts learned in the freshman year are reinforced in the upperclassmen years. In participating in the Health and PE program at MCTS, students will be equipped with the information and skills they will need to make good decisions and become responsible, active, healthy, and productive citizens. In Grade 9, Health and Physical Education is divided into four units of instruction: Fitness for Life, Project Adventure, Competitive Sports, and Health. The units are not meant to be taught in isolation from one another. They are meant to be continuously connected to one another throughout the school year as a reinforcement of our Health and PE philosophy: "Fit for Life." Students will be introduced to a very unique program called Project Adventure, in which they will engage in experiential learning techniques that will teach them critical life skills such as responsible personal and social behavior, the ability to problem-solve, and the ability to use effective interpersonal skills. In 9th grade Health there is a focus on bullying and suicide prevention, character development and communication skills, and reproductive health. Students develop an understanding of the importance of bullying and suicide prevention by developing skills to build positive self-esteem, coping skills, and strategies for the prevention of unhealthy feelings and practices. Students are introduced to contraception and reproductive health and making positive choices when in relationships.

Course Title: Health/Drivers Ed & PE II

SCED Code: 08201

Grade Level: 10 Credits: 5

Building upon the ideals learned during the ninth-grade year, students in tenth-grade Health and PE will continue to engage in learning about critical life skills. The philosophy of "Fit for Life" will continue to be emphasized as students learn to incorporate this idea into both physical and mental aspects of their lives along with how this idea fits in with their career interests and goals. Students will engage in four units of study: Fitness for Life, Project Adventure, Competitive Sports, and Health/Driver's Education. As a part of Driver's Education, students will engage in New Jersey standards linked to driver's education. As a culminating assessment, students will take the written portion of the NJ-mandated driver's test in order to assist them in obtaining a New Jersey Driver's License.

Course Title: Health & PE III

SCED Code: 08101.11

Grade Level: 11 Credits: 5

Building upon the ideals learned during the tenth-grade year, students in eleventh-grade Health and PE will continue to engage in learning about critical life skills. The philosophy of "Fit for Life" will continue to be emphasized as students learn to incorporate this idea into both physical and mental aspects of their lives along with how this idea fits in with their career interests and goals. Students will engage in four units of study: Fitness for Life, Project Adventure, Competitive Sports, and Health. In 11th-grade health, students will engage in studies on mental and physical wellness, nutrition, dietary trends, disease prevention, health-related fitness components, proper usage of medicines, stress management, and the basics of first aid/CPR.

Course Title: Health & PE IV**SCED Code: 08101.12****Grade Level: 12 Credits: 5**

Building upon the ideals learned during the eleventh-grade year, students in twelfth-grade Health and PE will continue to engage in learning about critical life skills. The philosophy of “Fit for Life” will continue to be emphasized as students learn to incorporate this idea into both physical and mental aspects of their lives along with how this idea fits in with their career interests and goals. Students will engage in four units of study: Fitness for Life, Project Adventure, Competitive Sports, and Health. As a part of 12th-grade Health, students will engage in studies on healthy and unhealthy decision-making, medical advancements, disease prevention, the societal impact of drug abuse, healthy relationships, domestic violence, unique family structures, pregnancy, and parenting strategies, core ethical values, communication skills, issues facing individuals with disabilities, health issue solutions, and emergency response and CPR. *Upon successful completion of this course as well as the requirements outlined in the post-secondary articulation agreement, students may earn dual credit at MCCC in HPE110.*

Mathematics

Course Title: Algebra I**SCED Code: 02052****Grade Level: 9 Credits: 5****Prerequisite: Pre-Algebra**

The critical areas in this course deepen and extend understanding of linear and exponential relationships by contrasting them with each other by applying linear models to data. Students will engage in methods for analyzing, solving, and using quadratic functions. In the context of a career and technical school, this course will offer activities, performance tasks, and projects that link the students’ specific program interests to the content and skills covered. The skills of constructing and interpreting graphs and collecting and analyzing data are applicable to the CTE courses offered at the school. This course will also involve work with more complicated equations and inequalities, additional applications, functions, graphs, systems of equations, polynomials, factoring, and various other topics.

Course Title: Geometry**SCED Code: 02072****Grade Level: 9, 10 Credits: 5****Prerequisite: Algebra I**

The fundamental purpose of this Geometry course is to formalize and extend students’ geometric experiences and explore more complex geometric situations and deepen their explanations of geometric relationships, moving towards formal mathematical arguments. In the context of a career and technical school, this course will offer activities, performance tasks, and projects that link the students’ specific program interests to the content and skills covered. The skills of creating two-dimensional and three-dimensional drawings, accuracy with measurement, and demonstrating logic and reasoning are applicable to the CTE courses offered at the school. Additionally, important differences exist between this Geometry course and the historical approach taken in Geometry classes. For example, transformations are emphasized early in this course. The class starts with two-dimensional geometry and its functional uses, and it is extended to coordinate with three-dimensional geometry. Also included are angles related to parallel lines and circles as well as proving triangles congruent by use of reasoning. Formulas are used in conjunction with finding the area, volume, and perimeter of various polygons.

Course Title: Algebra II**SCED Code: 02056****Grade Level: 9, 10, 11 Credits: 5****Prerequisite: Algebra I**

Building on their work with linear, quadratic, and exponential functions, students extend their repertoire of functions to include polynomial, rational, and radical functions. Students work closely with the expressions that define the functions and continue to expand and hone their abilities to model situations and solve equations, including solving quadratic equations over a set of complex numbers and solving exponential equations using the properties of logarithms. In the context of a career and technical school, this course will offer activities, performance tasks, and projects that link the students' specific program interests to the content and skills covered. The skills of constructing and interpreting graphs and understanding and applying boundaries within inequalities are applicable to the CTE courses offered at the school. Topics will also include linear equations and inequalities, graphing, complex numbers, and quadratic equations. *Upon successful completion of this course as well as the requirements outlined in the post-secondary articulation agreement, students may earn dual credit at MCCC in MAT115.*

Course Title: AP Precalculus**SCED Code: 02110****Grade Level: 10, 11, 12 Credits: 5****Prerequisite: Algebra II**

During this course, students acquire and apply mathematical tools in real-world modeling situations in preparation for using these tools in college-level calculus. Modeling, a central instructional theme for the course, helps students come to a deeper understanding of each function type. By examining scenarios, conditions, and data sets, as well as determining and validating an appropriate function model, students develop greater comprehension of the nature and behavior of the function itself. The formal study of a function type through multiple representations (e.g., graphical, numerical, verbal, analytical), coupled with the application of the function type to a variety of contexts, provides students with a rich study of precalculus. Students develop and hone symbolic manipulation skills needed for future mathematics courses. They also solve equations and manipulate expressions for the many function types throughout the course. Students learn that functions and their compositions, inverses, and transformations are understood through graphical, numerical, verbal, and analytical representations, which reveal different attributes of the functions and are useful for solving problems in mathematical and applied contexts. In turn, the skills learned in this course are widely applicable in a variety of future courses that involve quantitative reasoning. *Upon successful completion of this course as well as the requirements outlined in the post-secondary articulation agreement, students may earn dual credit at MCCC in MAT146.*

Science

Course Title: Biology**SCED Code: 03051****Grade Level: 9 Credits: 5**

Biology is an introduction to the study of living things and their interdependence with the environment. This course will emphasize the development of students' scientific process skills, laboratory techniques, and an understanding of the fundamental principles of living organisms. Students will develop an understanding of key concepts that help them make sense of life science. The course builds upon students' scientific understanding of disciplinary core ideas, science and engineering practices, and crosscutting concepts. This course is supplemented with a required laboratory component corresponding to the material studied in the classroom. Students will gain skills using laboratory apparatuses and correct laboratory techniques and procedures along with being able to properly report their findings. In the context of a career and technical school, this course will also offer activities, projects, and labs that link the students' specific program interests to the covered skills and content. *Upon successful completion of this course as well as requirements outlined in the post-secondary articulation agreement, students may earn dual credit at MCCC in BIO113.*

Course Title: Chemistry**SCED Code: 03101****Grade Level: 9, 10 Credits: 5****Prerequisite: Biology**

Students in Chemistry will develop an understanding of the major ideas in the physical sciences such as the composition, properties, and reactions of substances. This course will explore such concepts as the behaviors of solids, liquids, and gasses; acid/base and oxidation/reduction reactions; and atomic structure. Chemical formulas and equations and nuclear reactions are also studied. The performance expectations blend the major ideas with scientific and engineering practices and crosscutting concepts to support students in developing usable knowledge to explain ideas across the science disciplines. The course builds upon students' scientific understanding of disciplinary core ideas, science and engineering practices, and crosscutting concepts. Students will use these practices to demonstrate an understanding of the main ideas. This course is supplemented with a required laboratory component corresponding to the material studied in the classroom. Students will gain skills using laboratory apparatuses and correct laboratory techniques and procedures, along with being able to properly report their findings. In the context of a career and technical school, this course will also offer activities, projects, and labs that link the students' specific program interests to the content and skills covered. *Upon successful completion of this course as well as the requirements outlined in the post-secondary articulation agreement, students may earn dual credit at MCCC in CHEM100.*

Course Title: Environmental Science**SCED Code: 03003****Grade Level: 11, 12 Credits: 5****Prerequisite: Biology, Chemistry, and Algebra I**

Environmental Science course is designed to engage students with the scientific principles, concepts, and methodologies required to understand the interrelationships within the natural world. The course requires that students identify and analyze natural and human-made environmental problems, evaluate the relative risks associated with these problems, and examine alternative solutions for resolving or preventing them. Environmental science is interdisciplinary, embracing topics from geology, biology, environmental studies, environmental science, chemistry, and geography.

Course Title: Physics**SCED Code: 03151****Grade Level: 10, 11, 12 Credits: 5****Prerequisite: Chemistry and Algebra I**

In Physics, students will study the physical world around them, including kinematics, dynamics, energy, momentum, electrostatics, circuits, and waves. Students will analyze and model real physical systems and predict changes in order to engineer possible solutions to problems. Students will accomplish this through guided, cooperative, and independent inquiry-based activities in which they apply their conceptual understanding. This course is supplemented with a required laboratory component corresponding to the material studied in the classroom. Students will gain skills using laboratory apparatuses and correct laboratory techniques and procedures, along with being able to properly report their findings. In the context of a career and technical school, this course will also offer activities, projects, and labs that link the students' specific program interests to the content and skills covered. *Upon successful completion of this course as well as the requirements outlined in the post-secondary articulation agreement, students may earn dual credit at MCCC in PHY109.*

Social Studies

Course Title: World History**SCED Code: 04051****Grade Level: 9 Credits: 5**

The ninth-grade World History course provides students with a comprehensive and interdisciplinary approach to studying history and its relationships to present-day society. This course includes the integration of digital literacy and active citizenship throughout the ninth-grade year. The course will explore world history from 1350 to the present, starting with colonization, the emergence of the first global age, emphasizing technological and economic development based on trade, and the growth of empires. The course will then lay the foundations for the modern era beginning with the Renaissance and proceeding through the scientific revolution, reformation, and Enlightenment. This course will then focus on industrialism, imperialism, and the political revolution of the 18th and 19th centuries. Students will then examine the era of the great wars, starting with World War I, by emphasizing its causes and the consequences that led to the political, and economic developments of the inter-war period,

leading to the outbreak of World War II. The course will then investigate the Cold War and the impact of the bipolar system on decolonization and independence movements. The course concludes with the study of challenges of the modern world, such as population growth, the environment, human rights, the proliferation of intergovernmental organizations, and the impact of threats, such as terrorism, on national security. Throughout this course, students will be challenged to recognize the continuity of human behavior through time and to engage in analysis and synthesis utilizing primary documents. Students will also engage in various project-based learning modules, writing, and Document-Based Question (DBQ) projects that may include content focusing on specific career and technical programs. *Upon successful completion of this course as well as the requirements outlined in the post-secondary articulation agreement, students may earn dual credit at MCCC in HIS113.*

Course Title: United States History I

SCED Code: 04102

Grade Level: 10 Credits: 5

This course is designed to provide students with an in-depth examination of the political, economic, and social development of the United States. It will cover topics from early colonization and settlement to the civil war and reconstruction. The year will begin with examining how North American colonies adopted European structures and ideologies to support the new world. Students will be exposed to the origins of the American Revolution and how it led to the Declaration of Independence and the establishment of a constitution to provide the framework for America's system of government. This course investigates the age of expansion and reform. Students will examine territorial expansion and social reform from a social, political, and economic lens. This unit will also look at the expansion of democracy and practices. The final unit will be an analysis of the U.S. Civil War and the Age of Reconstruction. Students will identify political, economic, and ideological differences, along with the efforts to reunite the country during the post-war era. This course will also allow students to analyze and synthesize materials at a high level and will give them an opportunity to examine historical information from a variety of sources. Students will also engage in various project-based learning modules, writing, and Document-Based Question (DBQ) projects that may include content focusing on specific career and technical programs. *Upon successful completion of this course as well as the requirements outlined in the post-secondary articulation agreement, students may earn dual credit at MCCC in HIS105.*

Course Title: United States History II

SCED Code: 04103

Grade Level: 11 Credits: 5

This course is designed to provide students with an overview of the political, economic, and social development of the United States from the post-reconstruction era and the present-day. This course continues the study of United States history that began in the previous year. Units of study will include industrialization, the Progressive Era, and the Gilded Age. Students will also examine the capitalist economic system, giving special attention to the Great Depression and current economic theories and practices; the causes of World War II and its effects upon global and domestic developments; a comparative study of various political systems; and tracing and evaluating the development of United States foreign policy, giving specific attention to our involvement in the Cold War. Students will also engage in various project-based learning modules, writing, and Document-Based Question (DBQ) projects that may include content focusing on specific career and technical programs. *Upon successful completion of this course as well as the requirements outlined in the post-secondary articulation agreement, students may earn dual credit at MCCC in HIS106.*

Visual & Performing Arts

Course Title: Visual & Performing Arts Seminar

SCED Code: 05197

Grade Level: 10-12 Credits: 5

Visual & Performing Arts seminar courses enable students to explore a particular art discipline. This course serves as an opportunity for students to expand their expertise in a particular form or style, explore a topic in greater detail, or develop more advanced skills by encouraging students to demonstrate critical thinking, collaboration, and academic research skills on topics of the student's choosing in the Visual & Performing Arts field. Students will develop and practice the skills in research, collaboration, and communication that you'll need in any academic discipline. Using an inquiry framework, students practice reading and analyzing articles, research studies, and foundational, literary, and philosophical texts; listening to and viewing speeches, broadcasts, and personal accounts; and experiencing artistic works and performances. Students learn to synthesize information from multiple sources, develop their own perspectives in written essays, and design and deliver oral and visual

presentations individually and as part of a team. Ultimately, the course aims to equip students with the power to analyze and evaluate information with accuracy and precision in order to craft and communicate evidence-based arguments. To accommodate the wide range of student topics, typical dual credit/college course equivalents include interdisciplinary or general elective courses.

World Language

Course Title: Spanish I

SCED Code: 24052

Grade Level: 9 Credits: 5

As part of a career and technical education, learning another language can be instrumental in providing students with additional communication skills. Spanish I will offer activities and projects that link specific program interests to the course content and skills covered. Students will be introduced to common vocabulary, phrases, and concepts necessary for daily interpersonal interaction. Emphasis will be placed on basic communication and comprehension in everyday situations, i.e. survival skills. Students will gain a working knowledge of the basic structure of the target language using the present tense. Students will engage in activities such as the creation and performance of original dialogues, question-and-answer situations as posed by the teacher or other students, and various collaborative projects centered in thematic units. Students will begin to talk about topics and situations that are of interest to them, their friends, and the target language community. They will begin to speak Spanish and will discover how they can greet others in Spanish and talk to them about the daily routines of student life. Gradually, they will develop their ability to understand spoken and written Spanish. Thematic learning objectives are presented within the framework of the three modes of communication, as outlined by the American Council on the Teaching of Foreign Languages (ACTFL): Interpersonal, Interpretive, and Presentational. All activities and assignments are aligned with the three modes and with the New Jersey Standards for Learning for the Novice-Mid level. The textbook series, *Realidades*, includes many online resources for students to be able to practice outside of school.

Course Title: Spanish II

SCED Code: 24053

Grade Level: 10 Credits: 5

Spanish II is designed for students who have completed one year of Spanish I or who have passed a placement test with a sufficient score. Second-year students will learn to use different verb tenses (present and past tenses), continue to build vocabulary, and become more proficient in speaking and comprehension skills. As a part of a career and technical education, learning another language can be instrumental in providing students with additional communication skills. Spanish II will offer activities and projects that link specific program interests to the content and skills covered. Thematic learning objectives are presented within the framework of the three modes of communication, as outlined by the American Council on the Teaching of Foreign Languages (ACTFL): Interpersonal, Interpretive, and Presentational. All activities and assignments are aligned with the three modes and with the New Jersey Standards for Learning for the Novice-High level. The textbook series, *Realidades*, includes many online resources for students to be able to practice outside of school. *Upon successful completion of this course as well as the requirements outlined in the post-secondary articulation agreement, students may earn dual credit at MCCC in SPA101 & SPA102.*

Financial, Economic Business, and Entrepreneurial Business Literacy

Course Title: Foundations in Personal Finance

SCED Code: 19262

Grade Level: 10-12 Credits: 5

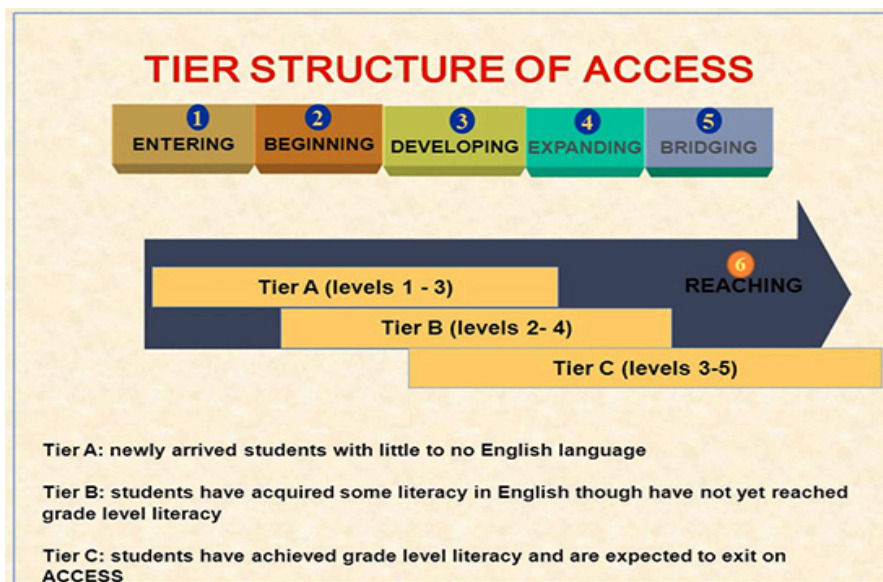
This course has been designed to not only satisfy students' financial literacy graduation requirement but also to provide them with an experience that will assist in transitioning learners into their post-secondary pathways. The financial literacy portion of the course will emphasize finance, economics, business, and entrepreneurial literacy as it applies to everyday life situations. Personal decision-making regarding budgeting, career choices, investments, loans, and insurance will be covered. The entrepreneurship and career preparation portion of the class will be dedicated to preparing students for the post-secondary world. Students will also explore various career options related to finances, educational training, and preparedness by creating

an entrepreneurial business plan related to the student’s respective career program. At selected time frames throughout the year, learners will be given time and support to engage in college- or career-specific tasks, including assignments related to college essay writing, filling out college and job applications, completing important tasks in Naviance (the school’s digital platform for post-secondary planning), applying for scholarships, and preparing for the SATs/ACTs. The course will be supported in collaboration with the school’s guidance counselors, who will be a consistent resource for students.

Multilingual Learners (ML)

The ML Program is a set of leveled language courses for Multilingual Learners (MLs) that satisfies the English Language Arts graduation requirement(s). The primary goal is to develop and improve English communication skills (listening, speaking, reading, and writing). The objectives of the ML program are to develop both interpersonal communication skills and cognitive academic language proficiencies.

Planned instruction in ML classes includes listening, speaking, reading, and writing at different levels of proficiency (Entering, Emerging, Developing, Expanding, and Bridging). The amount and type of standards-based ML instruction provided to students depend upon their level of language development and proficiency as determined by multiple criteria, including student reading level, student success in former/current ML course placement, student success in mainstream courses, WIDA ACCESS and/or WIDA MODEL assessment for English language proficiency, and ESL teacher recommendations.



NOTE

-World Language - if the student is identified as an ML and participating in a bilingual or ESL program, the student is learning a second language and does not need to take World Language (N.J.A.C.6A:8-5.1(b)4).

-In order to exit the ML program and enter the mainstream English Language Arts program, ML students must meet multiple exit criteria evaluated by the ESL Supervisor according to state guidelines.

Curriculum Review Cycle

Needs Assessment and Program Planning

During this year, we discuss and plan what curricular changes need to be made in accordance with new or evolving standards, assessments, or other internal and external forces. The goals of this year are as follows:

1. Develop a list of needs for a new curriculum and identify the people, times, places, etc. for curriculum development
2. Write complete curricula as part of the response to the proposed need

During this year, we will use qualitative and quantitative feedback from various stakeholders, as well as longitudinal assessment results of development and implementation, to create a summative reflection and analysis of the curriculum. In addition, curriculum leaders will examine new and recent research on the subject(s) in question in preparation for renewing the cycle. Note that this step is also the initial step for new courses.

Impact Study

This year will be focused on developing a report on the implementation of the new curriculum. While both quantitative and qualitative feedback is appropriate, it is expected that qualitative feedback will be prioritized as teachers work to understand the new curriculum and implement it with fidelity. Information from, but not limited to, this year may be used to “tweak” a curriculum as needed.

Annual Fitness Review

This year will generate a report as to how the new curriculum’s impact has or has not resulted in performance gains on standardized and other assessments. Building and district administrators will present a picture of longitudinal data that shows progress in performance over time since the implementation of the curriculum. This includes consideration of end-of-course criteria used for students to advance to post-requisite courses.

Annual Fitness Review (II)

This year will again generate a report as to how the new curriculum’s impact has or has not resulted in performance gains on standardized and/or other assessments. Building and district administrators will present a picture of longitudinal data that shows progress in performance over time since the implementation of the curriculum.

Annual Fitness Review (III)

This year will again generate a report as to how the new curriculum’s impact has or has not resulted in performance gains on standardized and/or other assessments. Building and district administrators will present a picture of longitudinal data that shows progress in performance over time since the implementation of the curriculum.

Cycle Repeats to Needs Assessment/Program Planning

Longitudinal Progress for Curricula

NA/PP	Needs Assessment and Program Planning
AFR	Annual Fitness Review
IS	Impact Study

CTE Career Cluster(s) & Academic Subject Areas	2022- 2023	2023- 2024	2024- 2025	2025- 2026	2026- 2027
<ul style="list-style-type: none"> ● Business, Management & Admin ● Trans., Distribution, & Logistics ● ELA / ESL / ELL ● Social Studies 	NA/PP	IS	AFR	AFR	AFR
<ul style="list-style-type: none"> ● Marketing & Hospitality/Tourism ● Mathematics 	AFR	NA/PP	IS	AFR	AFR
<ul style="list-style-type: none"> ● Arts, A/V Technology & Comms. ● Agriculture, Food & Nat Resources ● Manufacturing ● World Language ● Visual & Performing Arts 	AFR	AFR	NA/PP	IS	AFR
<ul style="list-style-type: none"> ● Human Services (w/o Cosmetology) ● Architecture and Construction ● Health Science ● Education & Training ● Comprehensive Health & PE 	AFR	AFR	AFR	NA/PP	IS
<ul style="list-style-type: none"> ● Human Services (Cosmetology only) ● Government & Public Administration ● Finance ● Information Technology ● STEM ● Law, Corrections, & Public Safety/Sec ● Science 	IS	AFR	AFR	AFR	NA/PP

(Five (5) Year Cycle)