

# THOMAS EDISON HIGH SCHOOL OF TECHNOLOGY

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**2019-20  
COURSE  
GUIDE**

# Thomas Edison High School of Technology

## 2019-20 Course Guide

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# Foundations of Automotive Technologies

Foundations of Automotive Technologies is an entry level program that gives students exposure to career opportunities and instructional competencies in the automotive repair fields. Automotive maintenance and basic servicing are the basis of the program.

Students gain entry-level skills that prepare them for entry into the automotive service industry or for further study in the Automotive Technology or Automotive Body Repair Technology programs.

## Licenses & Certifications:

- Automotive Service Excellence Student (ASE Student) certification

## Program Highlights:

- *National Automotive Technicians Education Foundation* (NATEF) certified program.
- Students also gain experience through operating a student-run, licensed car dealership.
- Automatically earn **15 SSL hours** per semester with a passing grade in the course.

## Montgomery College Articulations:

For all articulations, the student must earn an “A” or “B” each and every semester to be eligible for credit. Some articulations have additional requirements.

### Edison Semesters

2 semesters +  
(2 Auto Tech)

### Montgomery College Courses Articulated

AUTO 101 Intro to Auto Technology (3 credits)\*

*\*NOTE: Student may complete 1 year of Foundations of Auto and 1 year of Auto Tech to be eligible for AT 101 credit.*

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# Auto Body Repair Technology

Auto Body Repair Technology is a program that develops skills for entry-level employment in automotive body shops specializing in collision repair and painting.

Students follow the I-CAR education foundation curriculum, which includes both classroom and hands-on proficiencies and assessments. Students are educated in automotive restoration and repair through panel installation, trim replacement, surface preparation, and painting. An additional area of focus includes metal work mastery, in which students learn to weld, braze, solder, straighten, and shrink metal.

## Licenses & Certifications:

- Automotive Service Excellence Student (ASE Student) certification

## Program Highlights:

- *National Automotive Technicians Education Foundation* (NATEF) certified program.
- Students also gain experience through operating a student-run, licensed car dealership.
- Automatically earn **15 SSL hours** per semester with a passing grade in the course.

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# Automotive Technology & Dealership Training

Automotive Technology & Dealership Training students develop technical, analytical, and communication skills for post-secondary education or entry-level employment in the automotive industry. Students are provided instruction and gain hands-on experience in the maintenance, repair, sales, and marketing of automobiles.

Students who complete two years of the Automotive Technology program can earn one year of the work experience requirement towards Automotive Service Excellence (ASE) certification. Students may also complete the ASE student certification exams in brakes, suspension and steering, electrical and electronic systems, and engine performance. Students in this program are prepared to enter post-secondary educational programs upon graduation.

## Licenses & Certifications:

- Automotive Service Excellence Student (ASE Student) certification

## Program Highlights:

- *National Automotive Technicians Education Foundation* (NATEF) certified program.
- Students also gain experience through operating a student-run, licensed car dealership.
- Automatically earn **15 SSL hours** per semester with a passing grade in the course.

## Montgomery College Articulations:

For all articulations, the student must earn an “A” or “B” each and every semester to be eligible for credit. Some articulations have additional requirements.

### Edison Semesters

4 semesters

### Montgomery College Courses Articulated

AUTO 101 Intro to Auto Technology (3 credits)\*

AUTO 161 Automotive Electricity 1 (4 credits)\*\*

*\*NOTE: Student may complete 2 years of Auto Tech OR 1 year of Foundations of Auto and 1 year of Auto Tech OR 3 semesters of Auto Tech and 1 semester of Auto Tech OJT / Internship to be eligible for AT 101 credit.*

*\*\* NOTE: For AUTO 161 credit, Students must also pass the National Automotive Student Skills Standards Assessment (NA3SA) end-of-program exam for Electrical / Electronic Systems.*

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# Foundations of Building Construction Technology (FBCT)

Students develop introductory skills in Carpentry, Construction Electricity, Heating, Ventilation, and Air Conditioning (HVAC), Masonry, and Plumbing. FBCT is Edison's only one semester program, and after successful completion, student will choose a Construction discipline to continue study. Instruction is based on the *National Center for Construction Education and Research* (NCCER) curriculum.

## Licenses & Certifications:

- NCCER Core Certification
- OSHA 10 Safety Certification
- Maryland State Erosion and Sediment Control Certification
- Hilti Power Actuated Nailer Certification (age 18 and older)

## Program Highlights:

- *National Center for Construction Education and Research* (NCCER) curriculum.
- Students apply learned theory and skills by working at the student-built house.
- Edison's only **one semester** program.
- After completing this course, students have the opportunity for dual-enrollment at Montgomery College in the *Construction Management Program*.

## Montgomery College Articulations:

For all articulations, the student must earn an "A" or "B" each and every semester to be eligible for credit. Some articulations have additional requirements.

### Edison Semesters

1 semester +  
(3 of another construction trade)

### Montgomery College Courses Articulated

BLDG 130 Intro. to the Building Trades (3 credits)\*

**\*NOTE:** *Students must also complete 3 additional semesters of another construction program to receive credit for BLDG 130.*

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# Carpentry

Carpentry students develop competencies in a variety of construction skills including blueprint reading, layout techniques, floor and wall construction, door installation, stair construction, and cabinet installation. Students develop skills that provide entry into advanced educational opportunities in college or to begin a career as a carpenter. Instruction is based on the *National Center for Construction Education and Research* (NCCER) curriculum.

Graduates are prepared to pursue two- or four-year college programs in architecture, engineering, business management, and construction management.

## Licenses & Certifications:

- NCCER Carpentry Level 1 & 2 Certification
- OSHA 10 Safety Certification
- Maryland State Erosion and Sediment Control Certification
- Hilti Power Actuated Nailer Certification (age 18 and older)

## Program Highlights:

- *National Center for Construction Education and Research* (NCCER) curriculum.
- Students apply learned theory and skills by working at the student-built house.
- Automatically earn **15 SSL hours** per semester with a passing grade in the course.
- Students have the opportunity for dual-enrollment at Montgomery College in the *Construction Management Program*.

## Montgomery College Articulations:

For all articulations, the student must earn an “A” or “B” each and every semester to be eligible for credit. Some articulations have additional requirements.

### Edison Semesters

4 semesters  
(1 FBCT + 3 Carpentry)\*

### Montgomery College Courses Articulated

BLDG 130 Intro. to the Building Trades (3 credits)\*

BLDG 140 Fundamentals of Carpentry (4 credits)

**\*NOTE:** Student must complete with an “A” or “B” Edison’s Foundations of Building and Construction course for BLDG 130 credit.

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# Electricity (Construction Electricity)

Construction Electricity students develop skills in electrical hand tool safety and use; blueprint reading and interpretation; electrical system and design; conductor selection and sizing; electrical wiring system design; and voltage/amperage calculations. All instruction is based on the National Electrical Code and is based on the *National Center for Construction Education and Research* (NCCER) curriculum.

Graduates of the program are prepared and encouraged to continue their education in college/university programs, such as electrical engineering, electronics technology, and construction technology. Aspiring electricians participate in a four to five-year apprenticeship, and a minimum of 144 hours of classroom instruction each year.

## Licenses & Certifications:

- NCCER Electricity Level 1 & 2 Certification
- OSHA 10 Safety Certification
- Montgomery County Maryland Electrical Apprentice licenses

## Program Highlights:

- *National Center for Construction Education and Research* (NCCER) curriculum.
- Instruction based on *National Electrical Code*.
- Students apply learned theory and skills by working at the student-built house.
- Earn hours towards electrical apprenticeship.
- Automatically earn **15 SSL hours** per semester with a passing grade in the course.
- Students have the opportunity for dual-enrollment at Montgomery College in the *Construction Management Program*.

## Montgomery College Articulations:

For all articulations, the student must earn an “A” or “B” each and every semester to be eligible for credit. Some articulations have additional requirements.

### Edison Semesters

4 semesters  
(1 FBCT + 3 Electricity)\*

### Montgomery College Courses Articulated

BLDG 130 Intro. to the Building Trades (3 credits)\*

BLDG 150 Fundamentals of Electrical Wiring (4 credits)

**\*NOTE:** Student must complete with an “A” or “B” Edison’s Foundations of Building and Construction course for BLDG 130 credit.

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# Heating, Ventilation, & Air Conditioning (HVAC)

HVAC prepares students for the challenges and demands of one of the fastest growing and most highly-technical of all construction related industries. Using classroom, lab, and job site experiences, rigorous education and training is provided in basic and advanced HVAC principles including the mathematical, environmental, and theoretical components of heating and refrigeration. Instruction includes sheet metal layout, fabrication, and installation; tubing and piping processes; equipment installation, testing and maintenance; system analysis and troubleshooting (including HVAC computer programs); heat theory, furnaces, boilers and heat pumps; refrigerant recovery operations; and HVAC control systems. Instruction is based on the *National Center for Construction Education and Research* (NCCER) curriculum.

Students are prepared to take the Air Conditioning and Refrigeration Institute (ARI) competency exam or to pursue post-secondary education and/or advanced training.

## Licenses & Certifications:

- NCCER HVAC Level 1 & 2 Certification
- OSHA 10 Safety Certification
- Chloro-fluorocarbon (CFC) Type one Certification
- Multi-Meter Certification

## Program Highlights:

- *National Center for Construction Education and Research* (NCCER) curriculum.
- Students apply learned theory and skills by working at the student-built house.
- Automatically earn **15 SSL hours** per semester with a passing grade in the course.
- Students have the opportunity for dual-enrollment at Montgomery College in the *Construction Management Program*.

## Montgomery College Articulations:

For all articulations, the student must earn an “A” or “B” each and every semester to be eligible for credit. Some articulations have additional requirements.

### Edison Semesters

4 semesters\*  
(1 FBCT + 3 HVAC)\*

### Montgomery College Courses Articulated

BLDG 130 Intro. to the Building Trades (3 credits)\*

**\*NOTE:** *Student must complete with an “A” or “B” Edison’s Foundations of Building and Construction course for BLDG 130 credit.*

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# Masonry

Masonry students learn the proper techniques for laying brick and block in a variety of patterns and configurations. Integrated into the program are applied mathematical principles that are used in material estimation, weight and load calculations, and volume and proportioning of various materials used in the masonry industry. Students learn how to use computers to generate material and cost estimates. Students apply learned theory and skills by completing all the brickwork for the student-built house. Instruction is based on the *National Center for Construction Education and Research* (NCCER) curriculum.

Graduates are prepared to pursue two- or four-year college programs in construction or business management.

## Licenses & Certifications:

- NCCER Masonry Level 1 & 2 Certification
- OSHA 10 Safety Certification
- Maryland State Erosion and Sediment Control Certification

## Program Highlights:

- *National Center for Construction Education and Research* (NCCER) curriculum.
- Students apply learned theory and skills by working at the student-built house.
- Automatically earn **15 SSL hours** per semester with a passing grade in the course.
- Students have the opportunity for dual-enrollment at Montgomery College in the *Construction Management Program*.

## Montgomery College Articulations:

For all articulations, the student must earn an “A” or “B” each and every semester to be eligible for credit. Some articulations have additional requirements.

### Edison Semesters

4 semesters\*  
(1 FBCT + 3 Masonry)\*

### Montgomery College Courses Articulated

BLDG 130 Intro. to the Building Trades (3 credits)\*

**\*NOTE:** Student must complete with an “A” or “B” Edison’s Foundations of Building and Construction course for BLDG 130 credit.

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# Plumbing

Plumbing students learn the theoretical and practical application and installation of plumbing and gas systems, as well as plumbing codes. Students apply that knowledge by completing the installation of gas, drain, waste, vent, water systems, as well as the installation of fixtures, appliances, and appurtenances in the student-built house. Instruction is based on the *National Center for Construction Education and Research* (NCCER) curriculum. Students who successfully complete the program are provided two years of the 4-year Maryland State requirement for licensure as a Journeyman Plumber/Gasfitter.

Top graduates are accepted directly into a local plumbing union, guaranteeing post-secondary education and employment.

## Licenses & Certifications:

- NCCER Plumbing Level 1 & 2 Certification
- OSHA 10 Safety Certification
- Maryland State Plumbing/Gasfitting Apprentice License
- Trac-Pipe Gas Installer Certification

## Program Highlights:

- *National Center for Construction Education and Research* (NCCER) curriculum.
- Students apply learned theory and skills by working at the student-built house.
- Students can potentially earn two years towards a four-year plumbing Journeyman license from the State of Maryland.
- Automatically earn **15 SSL hours** per semester with a passing grade in the course
- Students have the opportunity for dual-enrollment at Montgomery College in the *Construction Management Program*.

## Montgomery College Articulations:

For all articulations, the student must earn an “A” or “B” each and every semester to be eligible for credit. Some articulations have additional requirements.

### Edison Semesters

4 semesters  
(1 FBCT + 3 Plumbing)\*

### Montgomery College Courses Articulated

BLDG 130 Intro. to the Building Trades (3 credits)\*  
BLDG 160 Fundamentals of Plumbing (4 credits)\*

**\*NOTE:** Student must complete with an “A” or “B” Edison’s Foundations of Building and Construction course for BLDG 130 credit.

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# Principles of Architecture & CAD Technology

Principles of Architecture & CAD students combine collaboration, creativity, and learning through applying the fundamentals of architecture and technical drawing to complete original designs. This challenging college-preparatory program combines four essential categories of student performance: Critical Thinking and Representation, Building Practices and Technical Skills, Architectural Solutions, and Professional Practices. Students also apply visual communication skills of sketching; technical drawing; physical and virtual modeling, utilizing the design process from original concept to complete architectural drawings using Auto CAD and Revit programs.

Second-year students participate in the Young American House Design competition, where they work with a team of local architects to design a complete house. The student house design that is selected, is the house that is built by the Construction students. Upon successful completion of the program, students are prepared to further their education at the college/university level and pursue careers in the industry, such as building design, site development and planning, interior design, construction management, and architecture.

## Licenses & Certifications:

- Autodesk AutoCAD
- OSHA 10 Safety Certification

## Program Highlights:

- Students have the opportunity to work with local architects
- Automatically earn **15 SSL hours** with a passing grade in the first semester of their second year at Edison.
- Students have the opportunity for dual-enrollment at Montgomery College in the *Construction Management Program*.

## Montgomery College Articulations:

For all articulations, the student must earn an “A” or “B” each and every semester to be eligible for credit. Some articulations have additional requirements.

Edison Semesters  
2 semesters (Year 1)

Montgomery College Courses Articulated  
ARCH 103 Building Tech & Documentation (3 credits)\*

2 semesters (Year 2)

ARCH 183 CAD: Architectural Applications (4 credits)\*

*\*NOTE: Students must also pass MC departmental exam for ARCH 103 and ARCH 183 credit.*

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# The Academy of Hospitality and Tourism

The Academy of Hospitality and Tourism (AOHT) provides a rigorous and engaging curriculum, resulting from a district partnership with NAF (formerly called the National Academy Foundation). NAF is a national organization comprised of education, business, and community leaders who working to help prepare high school students for college and career. NAF curricula are created in partnership with industry professionals and designed around projects that help students acquire knowledge and skills that prepare them for postsecondary and career options. The AOHT curriculum focuses on principles of hospitality and tourism; global destinations, geography, cultures; customer service, marketing; and career readiness. Project-based learning strengthens literacy, project management, leadership, and teambuilding skills, while fostering creativity and innovation. Students apply knowledge and skills to an authentic class-time internship, which is coordinated through the internship coordinator at the home high school, at a local hotel, and may have the opportunity to complete a paid internship during the second year of the program. Working in collaboration with students from the Professional Restaurant Management program, AOHT students also learn about the operation of a full-service restaurant, Café Edison, open each spring.

Students in this program have the opportunity to earn the industry-recognized ServSafe Food Protection Manager's Certification. Students who meet all of the requirements may enroll in a college-level course during their senior year of high school.

## Licenses & Certifications:

- ServSafe Food Protection Manager's Certification

## Program Highlights:

- Students serve as Thomas Edison's tour guides.
- Students apply learned theory and skills during authentic internship experiences.\*\*
  - *\*\*Note- The internship experience is coordinated through the internship coordinator at the home high school.*
- Students have the opportunity to earn an industry-recognized certification.
- Students learn about the operation of a full-service restaurant, *Café Edison*, in the spring.
- Students earn **15 automatic SSL hours** per semester with a passing grade in the course.

## Montgomery College Articulations:

For all articulations, the student must earn an "A" or "B" each and every semester to be eligible for credit. Some articulations have additional requirements.

### Edison Semesters

2 semesters

### Montgomery College Courses Articulated

HMGT 105 Food Service Sanitation (1 credit)\*

*\*Note: Student must also achieve a passing score on the ServSafe Manager exam taken while enrolled in the Edison course.*

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# Cosmetology

The Cosmetology program focuses on the science and techniques of personal beauty care, with an emphasis on hair, skin, and nails. Cosmetology is Thomas Edison's only three- year program, and students must enter as rising sophomores (10th grade). Students using this course as their high school Career and Technology Education program of study completer must sit for the Maryland State Board of Cosmetologists Licensing Exam at the end of their third year in the program. The instructional emphasis in this program includes hygiene, sanitation and safety, salon management, and the Maryland State Board of Cosmetology rules and regulations. Students learn concepts and skills related to anatomy and physiology, mathematics and measurement, and chemistry. It is through course work, lab projects, and clinical experience that students are able to earn the **1,500 clock hours required** to become eligible to earn graduation credit and take the *Maryland State Board of Cosmetologists Licensing Exam* (both the Practical & Theory parts).

Students have opportunities to apply the skills and techniques learned and acquire entrepreneurial skills through managing and operating the in-school Edison Salon. Community members schedule appointments and become the Cosmetology students' salon customers. Under the guidance of the classroom instructor, who is a licensed senior cosmetologist, students are able to provide a variety of salon services including shampooing, precision hair cutting, chemical treatments, hair coloring, skin care and facials, make-up techniques, manicures, and pedicures.

## Program Requirements:

- Apply during freshman year, complete program in 10th, 11th, and 12th grade
- Should be in good academic standing
- To earn program of study completer, must successfully complete 3 years of study and take the Maryland State Board of Cosmetologists Licensing Exam

## Licenses & Certifications:

- Maryland State Board of Cosmetologists License

## Program Highlights:

- Students apply theory and skills to clinical experiences and to the management and operation of the Edison Salon.
- Students begin the program in Grade 10; this is Thomas Edison's only three-year program.
- Students earn **15 automatic SSL hours** per semester with a passing grade in the course.

*\*NOTE: Students **MUST complete the 1,500 clock hours required** to become eligible to earn graduation credit and sit for the Maryland State Board of Cosmetologists Exam.*

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# The Academy of Health Professions (AOHP)

The Academy of Health Professions (AHOP) program is an exciting course providing students with the opportunity to begin their education and career in the medical field, while still enrolled in high school. Students exit the program with multiple certifications and a strong background in the sciences and practical experiences as healthcare professionals. Instruction focuses on anatomy, physiology, medical terminology, patient care skills, and current healthcare issues. Additional areas of study include medication administration, vital signs, principals of infection control, and the care of the hospitalized patient.

The AOHP program can lay the groundwork for students wishing to pursue medical school and a career as a doctor, nurse, veterinarian, therapist, or a variety of other healthcare careers.

## Program Requirements:

- Grade of A or B in Chemistry and Biology; Concurrently enrolled in program with one or the other (if not completed)
- Minimum GPA of 2.5
- Apply during sophomore year, complete program in 11<sup>th</sup> and 12<sup>th</sup> grade

## Certifications:

- Certified Clinical Medical Assistants (CCMA)
- Certified Nursing Assistants (CNA)
- American Heart Association Basic Life Support (BLS) for Healthcare Providers
- Geriatric Nursing Assistant (GNA)

## First year students complete the following fundamental courses:

- Foundations of Medicine and Health Science
- Structures and Functions of the Human Body
- Certified Clinical Medical Assistant (CCMA) course

## Second year students complete the following advanced level (honors) courses:

- Medical Science with Clinical Applications course
- Guided Research course
- Internships at *Walter Reed National Military Medical Center* and *Bethesda Health and Rehabilitation Center*

The Academy of Health Professions meets the graduation requirement for completion of a career development program. Students completing the full program will earn a total of six credits. Students successfully completing the first semester of the second year school-based Medical Science program may be invited to participate in a second semester clinical rotation at a local hospital and long-term care facility.

**Please Note:** *Students from JFK, Sherwood, Paint Branch, and Watkins Mill high schools must apply for their schools' program.*

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# Restaurant Management/Culinary Arts

The Restaurant Management/Culinary Arts program offers students the opportunity to explore the food service industry and acquire the knowledge and skills needed to pursue postsecondary education and careers. This program is certified by the American Culinary Federation, a professional, organization that works to enhance professional growth for chefs and cooks. In a professional kitchen, students study and practice food safety and sanitation principles, professional food-handling and preparation techniques, and quantity preparation. Students participate in various entrepreneurial ventures through the operation of an in-school café and snack bar, and from catering in-school events, and a production bake sale. Students have opportunities to earn ServSafe Food Protection Manager's Certification.

## Licenses & Certifications:

- ServSafe Food Protection Manager's Certification

## Program Highlights:

- Students apply knowledge and skills to the operation of the Edison Snack Bar in the fall and Café Edison in the spring.
- Students earn **15 automatic SSL hours** per semester with a passing grade in the course.

## Montgomery College Articulations:

For all articulations, the student must earn an "A" or "B" in each semester course of the program to be eligible for credit. Some articulation agreements have additional requirements.

## Edison Semesters

2 semesters

## Montgomery College Courses Articulated

HMGT 105 Food Service Sanitation (1 credit)\*

*\*Note: Student must also achieve a passing score on the ServSafe Manager exam taken while enrolled in the Edison course.*

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# Graphic Design

Graphic Design's unique and inspiring program prepares students interested in college studies and careers in the arts, media, and communication industries. Students gain a wide and solid foundation in graphic design, digital imaging, and print-related skills.

The Graphic Design students use the latest in computer technology, as well as the latest programs related to design & production and digital imaging; leading to skills in photo editing, presentation, illustration & drawing, and multimedia and web design. Thomas Edison's Graphic Design program offers certification through the national accreditation and certification program, PrintEd. Through testing, students may earn certifications in Introduction to Graphic Communication and Graphic Design. Thomas Edison is also a Certiport certified testing facility for Adobe products. Additionally, students may also gain college credits through articulation agreements with select colleges and universities.

## Licenses & Certifications:

- Level I: PrintEd Introduction to Graphic Design
- Level II: PrintEd Graphic Design – Adobe Illustrator, Adobe Photoshop (optional and at cost)

## Program Highlights:

- Students have the opportunity apply learned theory and skills by participating in special project competitions such designing Café Edison’s menus and SkillsUSA pin and t-shirt design.
- Students earn **15 automatic SSL hours** per semester with a passing grade in the course.

## Montgomery College Articulations:

For all articulations, the student must earn an “A” or “B” each and every semester to be eligible for credit. Some articulations have additional requirements.

### Edison Semesters

2 semesters (Year 1)

### Montgomery College Courses Articulated

GDES 116 Digital Tools for the Visual Arts (4 credits)

2 semesters (Year 2)

GDES 121 Fundamentals of Graphic Design 1 (3 credits)\*\*

\*\* **NOTE:** For GDES 121 credit, Students must also pass the PrintEd Certification exam.

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# Law Enforcement and Leadership

Law Enforcement and Leadership is a triple period course focused on introducing students to the guiding principles of public safety and law enforcement. The course will provide students with many hands on experiences through the use of simulations, structured debates, and inquiry projects. In collaboration with the Montgomery County Police Department, experts from a variety of related criminal justice and law enforcement careers will provide students with real-life applications of course content. Leadership principles will also be incorporated in to the course as an essential component of law enforcement and public safety related careers.

In order for students to complete the program pathway and meet the CTE graduation requirement, students must complete one additional credit from an approved list of options. This may be completed either concurrently with the Law Enforcement and Leadership course or completed in the subsequent year. Students eligible for this program are juniors and seniors who have successfully completed National, State, and Local Government or Advanced Placement Government.

## Program Requirements:

- Successfully completed National, State, and Local Government (NSL Gov't) course

## Program Highlights:

- Students will engage in simulations, mock trials, relevant field trips, and hands on learning about the various roles and responsibilities of law enforcement.
- Options for a fourth credit for program completion include: dual enrollment in Montgomery College course CCJS 110, a high school law-related elective, independent research, or an internship.
- Program completion for qualified students provides a possible pathway for internships and/or entrance into cadet academies for Montgomery County Police Department and the Maryland State Police leading to a Criminal Justice Associate's degree and full time employment.

## Montgomery College Articulations:

For all articulations, the student must earn an "A" or "B" each and every semester to be eligible for credit. Some articulations have additional requirements.

### Edison Semesters

2 semesters

### Montgomery College Courses Articulated

CCJS 250 Criminal Justice Seminar (3 Credits)

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# Network Operations

Network Operations is an exciting course, preparing students for college information systems majors and promising technical industry certifications. In this course, students explore new technologies in PC hardware and operation systems, as well as computer networking. Students have the opportunity to earn *CompTIA A+* and *Network +* certification, which are entry level, industry standard certifications. Students gain theoretical and practical skills and knowledge, and are able to put those skills to use in entrepreneurial experiences and community service projects.

Graduates in this program are prepared for continued college/university study in various computer science majors.

## Licenses & Certifications:

- CompTIA A+ certification
- CompTIA Network+ certification

## Program Highlights:

- Students have the opportunity apply learned theory and skills by working at MCPS Foundation Computer Sales.
- Automatically earn **15 SSL hours** per semester with a passing grade in the course.

## Montgomery College Articulations:

For all articulations, the student must earn an “A” or “B” each and every semester to be eligible for credit. Some articulations have additional requirements. The following courses/credits can be transferred to Montgomery College Cybersecurity A.A.S.: 356A, Network and Wireless Technologies A.A.S.: 354, or the IT Professional+ Certificate: 254.

### Edison Semesters

2 semesters

### Montgomery College Courses Articulated

NWIT 127 Microcomputer Essentials (3 credits) \*

\* **Note:** Student must also pass the CompTIA A+ 901 AND 902 Exams for NWIT 127 credit.

3<sup>rd</sup> semester

NWIT 151 Introduction to Networking (3 credits) \*\*

\*\* **Note:** Student must also pass the CompTIA Network + Exam for NWIT 151 credit.

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# Cybersecurity

The Cybersecurity course is designed to prepare students for a challenging and rewarding career in the Cybersecurity industry. Training the workforce for Cybersecurity employment is a national priority with global demand expected to continue to rise. The course curriculum is based on Cisco Networking Academy and CompTIA national models and includes opportunities for challenging industry credentials.

Students completing this course will be well prepared for the demands of college curriculum and industry credentials and certifications. Students will master a variety of Cybersecurity skills by applying knowledge through their participation in actual and virtual exercises including preparation for Cybersecurity competitions as well as the CompTIA Security+ certification exam.

## Program Requirements:

- Must have completed one of the following pre-requisites:
  - AP Computer Science Principles
  - AP Computer Science Java
  - Network Operations, or
  - A course in the Computer Science Pathway, plus any one of the above

## Licenses & Certifications:

- CompTIA Security+ certification

## Program Highlights:

- Includes interactive, multimedia content, lab exercises and projects.
- Covers foundational topics in information security, systems security, network security, mobile security, ethics and laws.
- Builds student skills in protecting organizations from cyber-attacks using defense and mitigation techniques.

## Montgomery College Articulations:

For all articulations, the student must earn an “A” or “B” each and every semester to be eligible for credit. Some articulations have additional requirements.

- This course can serve as a **Capstone** course for the MCPS Computer Science/Code.org® Program of Study. In this Program, up to nine credits may be transferred to Montgomery College’s Computer Science Track, Computer Science and Technologies AA:107; Information Systems Track, or Computer Science and Technologies AA: 109.
- For students in Network Operations Program of Study, up to six credits may be transferred to Montgomery College’s Cybersecurity A.A.S.: 356A or Network and Wireless Technologies A.A.S.: 354.

► *Specific course information and details to be released.*

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