

Early College Information Session

Associate of Applied Science, Cybersecurity

Associate of Arts, Computer Science and Technologies

Globe Hall – High Technology and Science Center

October 8, 2019



EC



Early College (EC) at Montgomery College

- MCPS and Montgomery College (MC) collaboration which provides the opportunity for students from multiple high schools to complete their high school graduation requirements on an MC campus and begin their college career.
- MCPS students will complete their Maryland State high school diploma requirements while simultaneously earning an Associate in Science or a Associate of Arts degree from Montgomery College.
- Early College students will take their first year of college classes together as a cohort. In the second year in the program, students will continue to take most of their classes with the Early College cohort, however, may also take elective courses with other MC students.
- The students will not take any classes at the high school. They will be fulltime college students taking all of the coursework for the 11th and 12 grade years on the MC campus.
- The MC A.A., A.S., A.A.S and A.A.T. degrees earned will transfer to a four-year institution within the state of Maryland and provide an opportunity for Montgomery County to support current students while building a future workforce. By creating a pathway from MCPS, to MC, to a bachelor's degree, and then back to the Montgomery County workforce.

Assumptions & Admission Requirements

Assumptions

- ✓ Students have met or are near completion of fulfilling their SSL hours.
- ✓ Students have successfully completed all 9th and 10th grade classes as outlined on the degree pathways including P.E.
- ✓ Students must earn grades of “C” or higher in their college classes in order to maintain eligibility to remain in the program. Grades of “C” or better are crucial as this may affect transferability of credits, students ability to receive future federal financial aid and satisfying prerequisites for future college classes.
- ✓ With the help of their Early College Coordinator, students will research transfer opportunities to determine appropriate admission application process and transferability of their credits.


Admission Requirements


- ✓ Students have taken their mathematics and English state assessments.
- ✓ Have an unweighted MCPS cumulative G.P.A. of 2.75 or higher at the end of 10th grade.
- ✓ Complete the MCPS Application, the MCPS Early College Application and the Montgomery College Admissions Application.
- ✓ Participate in the Summer Transition program: Monday-Friday, 9 a.m.-noon, **July 6 through July 31, 2020** on the Germantown Campus.
- ✓ Meet assessments into individual Early College programs.


A.A.S. in Cybersecurity Early College Degree Program




Examples of A.A.S. in Cybersecurity Transfer Opportunities


| | | | | |
|---|-----------------------------------|-------------------------|-----------------------------|----------------------|
|  | Bowie State University, MD | A.A.S. in Cybersecurity | B.S. in Computer Technology | View |
|---|-----------------------------------|-------------------------|-----------------------------|----------------------|


| | | | | |
|---|--|-------------------------|--|----------------------|
|  | Capitol Technology University, MD | A.A.S. in Cybersecurity | B.S. in Cyber and Information Security | View |
|---|--|-------------------------|--|----------------------|


| | | | | |
|---|---|--|-------------------------------|----------------------|
|  | George Washington University, D.C. | | B.A./B.S. in Computer Science | View |
|---|---|--|-------------------------------|----------------------|

| | | | | |
|---|---|--|--|----------------------|
|  | George Washington University, D.C. | | Bachelor's in Integrated Information, Science and Technology | View |
| | College of Professional Studies | | | |

| | | | | |
|---|--|-------------------------|--|----------------------|
|  | Harrisburg University of Science and Technology, PA | A.A.S. in Cybersecurity | B.S. in Computer and Information Science with a concentration in Cybersecurity | View |
|---|--|-------------------------|--|----------------------|

| | | | | |
|--|---------------------------------|-------------------------|---|----------------------|
|  | Marymount University, VA | A.A.S. in Cybersecurity | B.S. in Information Technology with a Specialty in Networking and Cybersecurity | View |
|--|---------------------------------|-------------------------|---|----------------------|

| | | | | |
|---|--|---|---|----------------------|
|  | University of Maryland University College | A.A. in Computer Science A.A.S. in Cybersecurity A.A.S. in Computer Applications A.A. in Information Systems | B.S. in Computer & Information Science B.S. in Computer Network & Security B.S. in Computer Science B.S. in Cybersecurity B.S. in Digital Media & Web Tech. | View |
|---|--|---|---|----------------------|

| | | | | |
|---|--|---|---|----------------------|
|  | U. of Maryland University College @ USG | A.A. in Computer Science A.A.S. in Cybersecurity A.A.S. in Computer Applications A.A. in Information Systems | B.S. in Computer & Info. Science B.S. in Comp. Networks & Security B.S. in Digital Media & Web Tech. B.S. in Cybersecurity B.S. in Information Systems Mgmt | View |
|---|--|---|---|----------------------|

Examples of A.A.S. in Cybersecurity Career Opportunities

U.S. Government

Most security jobs – and many non-security jobs – require a Security Clearance. [Must be a U.S. Citizen]

Private Sector

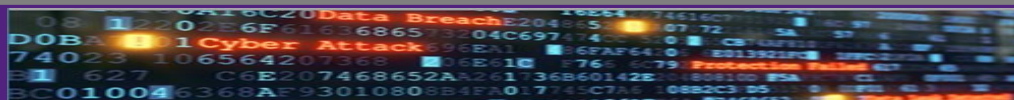
If contracting for USG, you may still need a security clearance.
If strictly in private sector, you may not.

But you may need a background clearance. Be careful what you do on Social Media!

MC Opportunities for Cybersecurity Majors

- We have tutors
 - You are encouraged to take advantage of these resources!
- We have a Cybersecurity Club
 - You are encouraged to join the club (and other extra curricular activities)
- We have a twitter account -- @MCCybersecPgm
 - Job opportunities
 - Internship opportunities
 - Volunteer opportunities
 - Cybersecurity conferences
 - Cybersecurity webcasts
 - And more...

CYBER SECURITY PROGRAM



Cybersecurity Awareness Month

| Date | Time | Event | Location |
|--------|-----------------|---|-----------|
| Oct 4 | 1:00 PM | NSA Co-Op program briefing and recruiting | GT/HT230 |
| Oct 8 | 3:30 PM | Cybersecurity @ Dataprise Dataprise Internship recruiting | GT/HT230 |
| Oct 16 | 12:00 – 1:00 pm | How Attackers Secretly Exfiltrate Stolen Data Presented by Professor Vargas | GT/HT230 |
| Oct 25 | 12:00 – 5:00pm | Cybersecurity Competition (CTF) | GT/HT 230 |
| Oct 30 | 12:00 – 1:00 pm | How Attackers Communicate with Compromised Systems Presented by Professor Vargas | GT/HT 230 |
| TBD | | FDA Cyber Center Trip | FDA |

* ALL events Require RSVP

To signup for events requiring an RSVP go to:
<https://tinyurl.com/CyberAwarenessMonth2019>
Limited to current MC students only

Food/refreshments provided
(you must RSVP)

A.A. in Computer Science and Technologies Early College Degree Program




Transfer Opportunities for Computer Science Major

- University of Maryland, College Park
- University of Maryland, Baltimore County (UMBC)
- University of Maryland Global Campus
- University of the District of Columbia (UDC)
- Shepherd University, WV
- The Universities at Shady Grove

Career Opportunities for Computer Science Major

- Computer and Information Research Scientist
- Computer Programmer
- Software Engineer
- Software Developer
- Computer Support Specialist
- Computer Systems Analyst
- Database Administrator



Computer Science and Information Systems

- Computer Science and Technologies Home
- Science, Engineering, and Technology Area
- Contact Us
- Faculty and Staff
 - OT&SS Faculty
 - Rockville Faculty and staff
- Degree & Programs
- Courses
 - CS Courses
 - Books
 - CMSC Software 2017-2018
- Class Schedule
- Tutoring
- Transferring
- Career outlook and Organizations
- NASA Swarmathon Competition
- Programming Competition
- MC Students
- CS Resources
- Labs
- Graduation Information
 - Steps and Application
 - Checklist

CAREER OUTLOOK and ORGANIZATION

Montgomery College's [Career Coach](#) site.

JOBS/SALARY

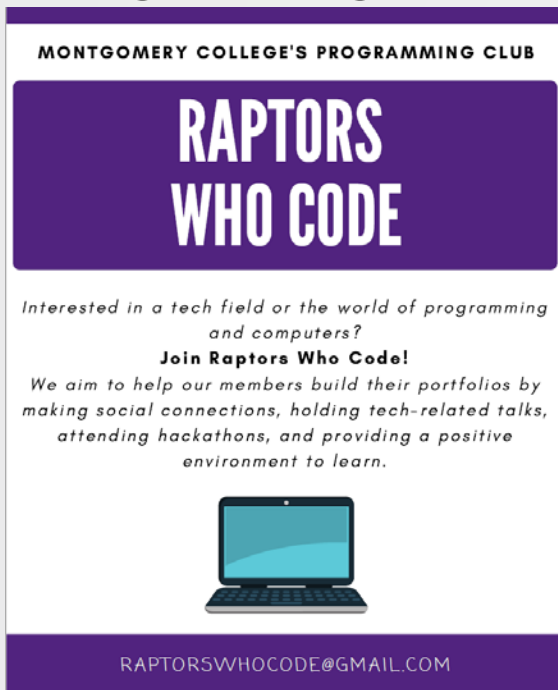
The following table is extracted from the Occupational Outlook Handbook, 2012-2013 edition published by the US Bureau of Labor Statistics

| Occupation | Job Summary | Entry Level Education | 2018 Median Pay |
|--|---|---------------------------------|-----------------|
| Computer and Information Research Scientists | Computer and information research scientists invent and design new technology and find new uses for existing technology. They study and solve complex problems in computing for business, science, medicine, and other uses. | Doctoral or professional degree | \$100,660 |
| Computer Programmers | Computer programmers write code to create software programs. They turn the program designs created by software developers and engineers into instructions that a computer can follow. | Bachelor's degree | \$71,280 |
| Computer Support Specialists | Computer support specialists provide help and advice to people and organizations using computer software or equipment. Some, called technical support specialists, support information technology (IT) employees within their organization. Others, called help-desk technicians, assist non-IT users who are having computer problems. | Some college, no degree | \$46,260 |
| Computer Systems Analysts | Computer systems analysts study an organization's current computer systems and procedures and make recommendations to management to help the organization operate more efficiently and effectively. They bring business and information technology (IT) together by understanding the needs and limitations of both. | Bachelor's degree | \$77,740 |
| Database Administrators | Database administrators use software to store and organize data, such as financial information and customer shopping records. They make sure that data are available to users and are secure from unauthorized access. | Bachelor's degree | \$73,490 |
| Information Security Analysts, Web Developers, and | Information security analysts, web developers, and computer network architects all use information technology (IT) to advance their organization's goals. | Bachelor's degree | \$75,060 |

For more information visit www.montgomerycollege.edu/computerscience

Computer Science Major Opportunities at MC

- Programming Club: Raptors Who Code



- Free Tutoring

For more information visit www.montgomerycollege.edu/computerscience

Contact us : cs@montgomerycollege.edu

Mr. Safiullah Rifai

Year Two Early College

A.S. Mathematics Student

EC² Program Cost to Student

| | |
|---|---|
| Cost of degree program including tuition, fees and instructional materials to a non-Early College program student | \$12,700 |
| Approximate cost of program paid by MC & MCPS | \$ 9,920 |
| Approximate cost of program to student (MC fees) | \$ 2,724 (average of \$681 per semester) |
| Approximate cost of program to student who is FARMS eligible | \$ 0 |

- Early College students are not eligible for federal financial aid. However, students may apply for Montgomery College High School Grant funds to cover portions of their fees as these funds are available. For more information on the MC High School Grant, go to the *Dual Enrollment Tuition, Fees and Financial Assistance* page at:
<http://cms.montgomerycollege.edu/EH DU/Department2.aspx?id=50732>
- **Transportation:** MC students can use Montgomery County Ride On bus service with their student photo ID and current term registration sticker as well as having access to the MC inter-campus shuttle system. MCPS does not provide bus service.

Approximate Tuition: Early College *versus Traditional Tuition*

| Program | Required Years After High School | Total Tuition, Fees & Books for Degree |
|--|-------------------------------------|---|
| UMD College Park <i>Bachelor of Science degree</i> | 4 | \$47,116 (\$43,116 tuition & fees + \$4,000 instructional materials) |
| Montgomery College <i>A.A., A.S., or A.A.S. degree</i> plus UMD College Park <i>Bachelor of Science degree</i> | 4 | \$36,148 (MC: \$12,700 + UMD: \$23,558) |
| Early College at Montgomery College <i>A.A., A.S., or A.A.S. degree</i> and UMD College Park <i>Bachelor of Science degree</i> | 2 | \$26,282 <u>or a savings of \$20,834</u> (EC at MC: \$2724 + UMD 2yrs. at \$22,558) |

Time to Completion

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 |
|-------------------------|--------------------------------|--------|--------|--------|--|--------|--------|--------|
| Traditional Path | | | | | | | | |
| | 4 years to high school diploma | | | | 4 years to baccalaureate (bachelor) degree | | | |

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 |
|---------------------------|------------------------|--------|--|--------|---|--------|--|--------|
| Early College Path | | | | | | | | |
| | 2 years of high school | | 2 years to high school and 2 year degree | | 2 years to baccalaureate (bachelors) degree | | 2 years to post-baccalaureate (Masters) degree | |

General Education Requirements

- Almost all colleges and universities require a set of general education or core courses. General Education courses are part of all Montgomery College associate degree programs.
- In these courses, students develop a foundation of skills, knowledge, and values, across a spectrum of topics, that prepare students for success in their future educational pursuits as well as in their personal and professional lives. These are courses that are taken in addition to those courses that are required for the major or degree program.
- Students will take classes in writing, humanities, science, and behavioral and social science as part of their general education requirements.
- The General Education coursework will transfer to University System of Maryland (USM) 4-year institutions as well as to most colleges and universities.

Early College Program Academic Support

Mandatory Summer Transition Program: July 6-July 31, 2020 Monday-Friday,

9 a.m.- noon on the Germantown Campus

Purpose: EC students will be prepared to meet the demands of college by bridging the gap between high school and college and facilitate student readiness for college. In addition to improving their math readiness, students will also:

- Prepare for specific degree college mathematics curriculum
- Learn how to access campus resources and services
- Discover new study and time management skills
- Improve team-building and problem-solving skills
- Become familiar with the campus and student organizations and clubs
- Understand graduation requirements
- Increase knowledge of MC policies/procedures

Additional Academic Support

Ongoing Services & Support:

- Students are highly encouraged to begin preparing for the college assessment testing right now by using the **Khan Academy** to increase English and Mathematics skills.
- The Math, Accounting, Physics, and Engineering Learning Center (MAPEL) at the Germantown Campus is a friendly learning environment. Services provided include tutoring, calculator rentals, a computer lab, text books/solution manuals, and other study materials.
- Embedded coaches work to support specific Early College courses.
- Early College Academic Coordinator is available on each campus to assist students with advising, course registration, connect students to services, transfer questions, etc.
- The Writing, Reading and Language (WRL) Center serves as a resource for students and provides support in all classes that require reading, writing, speech, American English Pronunciation, and world languages. The services provided are one-to-one tutoring, specialized workshops, access to instructional technology, the Microsoft Office software suite, WEPA print services, and various resources assigned by

Disability Support Services

- **DSS provides accommodations and supports for qualified students with documented disabilities college-wide.**
 - **Services that students received through an IEP or 504 plan at MCPS do not convey to college.**
 - **Students should apply for college services at least one month prior to the start of their classes.**
- ✓ **Contact the Germantown Campus DSS office on 240-567-7770.**

Next Steps

- Interested Grade 10 students must complete the **MCPS Common Application** by **November 1st^h deadline**. The Gr 10 application info will be on the special programs website in MID OCTOBER:
<https://www.montgomeryschoolsmd.org/curriculum/specialprograms/high/>
Choose the appropriate letter for the student's grade level.
- Eligible and Non-Eligible students will be informed of status by MCPS by **December 13, 2019**.
- Eligible students will receive an email and be asked to complete the **MCPS Early College Application Form** and **Montgomery College Admissions Application** by **January 3, 2020**.
- Eligible students will be contacted by their high school and scheduled to take the College Board ACCUPLACER assessment by **February**.
- All Eligible students who meet the program requirements will be provisionally accepted to the summer transition program pending final grades and MCAP and state assessment scores and will be notified by **mid-April**.
 - NOTE: If there are more eligible students than seats, a lottery will be held and students will be informed of their status.
- Attend and satisfy requirements of the Early College Summer Transition program, July 6-July 31, and assess into appropriate math course for degree option.
- Mandatory new student meeting will be held the **week of August 24th** with the **fall 2020 semester courses beginning on Monday, August 31, 2020**.



Contact Information

General questions about the Early College experience, contact Amy Crowley at: amy.crowley@montgomerycollege.edu

Questions on the **application process**, contact Mike Sullivan at: Michael_P_Sullivan@mcpsmd.org

For questions on the **Cybersecurity A.A.S. degree**, contact Cybersecurity Program Advisor David Vargas at: david.vargas@montgomerycollege.edu or Cybersecurity Coordinator and Advisor Silvia Vargas at: silvia.vargas@montgomerycollege.edu

Questions on the **Computer Science and Technologies A.A. degree**, contact Alla Webb at: alla.webb@montgomerycollege.edu

Questions about **Disability Support Services**, contact Sue Haddad at: sue.haddad@montgomerycollege.edu

Additional Information

Program information can be found at:

www.montgomerycollege.edu/early-college

<https://montgomeryschoolsmd.org/curriculum/partnerships/dual-enrollment.aspx>

[From the MCPS Home Page, search “Dual Enrollment” and click on the first result. The Early College information is in the middle of the page.](#)

Career and Postsecondary Partnerships → Dual Enrollment



DUAL ENROLLMENT: MCPS AND MONTGOMERY COLLEGE (MC) PARTNERSHIP

Introduction and Overview

MCPS and MC have partnered to provide Dual Enrollment opportunities to college ready students at all high schools as well as Middle and Early College options.

Dual Enrollment opportunities allow MCPS college ready high school students to take college courses during the academic school year. High school students who enroll and take a college course at any Maryland public college or university are able to do so at a reduced cost.

If students select to take courses at MC, and meet qualifications for and separately apply for the MC High School Grant, they may be able to take college courses at no tuition cost. Students are able to take college courses offered on the high school campus (at select high schools), on a