

Information Technology: Programming Academy

*Take the
Success
Express*

The Information Technology (IT) Programming Academy is for students who want to prepare for immediate work upon graduation as a computer programmer and/or transfer to a four-year college or university to earn a bachelor's degree in computer science. The program will provide you with foundational skills in computer, web and game programming, as well as in network design and management.

An Early College Career Academy

Offered by Macomb Community College and the Macomb Intermediate School District, Early College Career academies provide a unique opportunity for high school students to get a head start on their career and save money on their college tuition.

Enroll in an academy in your junior year of high school and earn your high school diploma AND an Associate of Applied Science Degree in three years. Your college tuition is free while you are enrolled in the academy.

Academy Benefits

- Earn an associate degree, tuition free
- Gain experience in paid and non-paid internships
- Develop skills that are in high demand
- Early Entrance. Early Exit. Early Success.

Information Technology Career Academies Available:

- Cybersecurity
- Programming
- Website Programming

Lead Faculty:

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Discover. Connect. Advance.™

Information Technology Programming Coursework

Term 1—High School Junior

Classes	Description	Credit
High School Mathematics	Appropriate HS Math Class	.5 HS
High School Science	Appropriate HS Science Class	.5 HS
High School English	HS Composition and Literature	.5 HS
ECM Seminar (Required)	College Readiness Skill Development	.5 HS
ECON 1160	Principles of Economics I	.5HS & 3MCC
ITCS 1010	Computer & Information Processing Principles	4 MCC
Associate of Applied Science Degree Credits		7

Term 2—High School Junior

Classes	Description	Credit
High School Mathematics	Appropriate HS Math Class	.5 HS
High School Science	Appropriate HS Science Class	.5 HS
High School English	HS Composition and Literature	.5 HS
ECM Seminar (Required)	College Readiness Skill Development	.5 HS
POLS 1000	Intro to American Politics	.5HS & 4MCC
ITCS 1140	Introduction to Program Design & Development	4 MCC
Associate of Applied Science Degree Credits		8

Term 3—High School Senior

Classes	Description	Credit
MMC Requirement	Class to meet grad'n req'ts of State/local district	.5 HS
MMC Requirement	Class to meet grad'n req'ts of State/local district	.5 HS
ECM Seminar (Required)	Transition to College/Career and Internship	.5 HS
ENGL 1180 or 1210	Communications 1 or Composition 1	3-4 MCC
ITCS 2530	C++ Programming*	4 MCC
BCOM 2050	Business Communications	4 MCC
Associate of Applied Science Degree Credits		11-12

Term 4—High School Senior

Classes	Description	Credit
MMC Requirement	Class to meet grad'n req'ts of State/local district	.5 HS
MMC Requirement	Class to meet grad'n req'ts of State/local district	.5 HS
ECM Seminar (Required)	Transition to College/Career and Internship	.5 HS
ENGL 1190 or 1220	Communications 2 or Composition 2	3-4 MCC
ITCS 2550	C++ Programming 2*	3 MCC
ITWP 1000	Introduction to Web Programming	3 MCC
Associate of Applied Science Degree Credits		9-10

Term 5—Thirteenth Year

Classes	Description	Credit
ECM Seminar (Required)	College/Career Support and Internship	.5 ECM
Arts and Sciences Group II	(from AAS degree schedule)	4 MCC
ITCS 1170	Database Design & Implementation with SQL & XML	3 MCC
ITNT 1500	Principles of Networking	4 MCC
BUSN 1010	Business Enterprise	3 MCC
ITCS 2000	Game Programming in Direct X with C++*	4 MCC
Associate of Applied Science Degree Credits		18

Term 6—Thirteenth Year

Classes	Description	Credit
ECM Seminar (Required)	College/Career Support and Internship	.5 ECM
Arts and Sciences Group IV	(from AAS degree schedule)	3-4 MCC
IT Elective	Select any IT course not previously taken	3-4 MCC
ITCS 2880	Applications Implementation & Testing	4 MCC
BCOM 2070	Technical Business Communications & Proj Mgmt	3 MCC
ITWP 2400	Web Programming with XML	3 MCC
Associate of Applied Science Degree Credits		16-18

Associate of Applied Science Degree Credit Total **69-73**
(3 Macomb credits for ECM seminars not included in total)

MMC Michigan Merit Curriculum

ECM Early College Macomb

HS High School

MCC Macomb Community College

*Student may elect alternate programming language for sequence.



Information Technology: Cybersecurity Academy

*A Success
Express for
High School
Juniors*

The Information Technology (IT) Cybersecurity Academy is for students who want to prepare for immediate work upon graduation as a cybersecurity professional and/or transfer to a four-year college or university to earn a bachelor's degree in cybersecurity. You will be introduced to cybersecurity issues, techniques, and policy as related to computer and information systems. You will learn how to configure firewalls and intrusion detection systems, safeguard corporate assets, analyze threat risks, use encryption techniques, conduct forensic investigations, secure evidence, evaluate security issues and much more.

Lead Faculty:

Keith Nabozny
naboznyk@macomb.edu

An Early College Career Academy

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A Few of the Benefits

- Earn an associate degree, tuition free
- Gain experience in paid and non-paid internships
- Develop skills that are in high demand
- Early Entrance. Early Exit. Early Success.



Information Technology Career Academies Available:

- Cybersecurity
- Programming
- Website Programming

 **Macomb
Community College**
Education • Enrichment • Economic Development
Discover. Connect. Advance.™

Information Technology Cybersecurity Academy Coursework

Term 1—High School Junior

Classes	Description	Credit
High School Mathematics	Appropriate HS Math Class	.5 HS
High School Science	Appropriate HS Science Class	.5 HS
High School English	HS Composition and Literature	.5 HS
ECM Seminar (Required)	College Readiness Skill Development	.5 HS
ECON 1160	Principles of Economics I	.5HS & 3MCC
ITCS 1010	Computer & Information Processing Principles	4 MCC
Associate of Applied Science Degree Credits		7

Term 2—High School Junior

Classes	Description	Credit
High School Mathematics	Appropriate HS Math Class	.5 HS
High School Science	Appropriate HS Science Class	.5 HS
High School English	HS Composition and Literature	.5 HS
ECM Seminar (Required)	College Readiness Skill Development	.5 HS
POLS 1000	Intro to American Politics	.5HS & 4MCC
ITNT 1500	Principles of Networking	4 MCC
Associate of Applied Science Degree Credits		8

Term 3—High School Senior

Classes	Description	Credit
MMC Requirement	Class to meet grad'n req'ts of State/local district	.5 HS
MMC Requirement	Class to meet grad'n req'ts of State/local district	.5 HS
ECM Seminar (Required)	Transition to College/Career and Internship	.5 HS
ENGL 1180 or 1210	Communications 1 or Composition 1	3-4 MCC
ITIA 1200	Intro to Information Systems Security	3 MCC
ITCS 1140	Introduction to Program Design & Development	4 MCC
Associate of Applied Science Degree Credits		10-11

Term 4—High School Senior

Classes	Description	Credit
MMC Requirement	Class to meet grad'n req'ts of State/local district	.5 HS
MMC Requirement	Class to meet grad'n req'ts of State/local district	.5 HS
ECM Seminar (Required)	Transition to College/Career and Internship	.5 HS
ENGL 1190 or 1220	Communications 2 or Composition 2	3-4 MCC
ITOS 1410	Windows Server Administration 1	4 MCC
ITWP 1000	Introduction to Web Programming	3 MCC
ITIA 1310	Certified Ethical Hacker	3 MCC
Associate of Applied Science Degree Credits		13-14

Term 5—Thirteenth Year

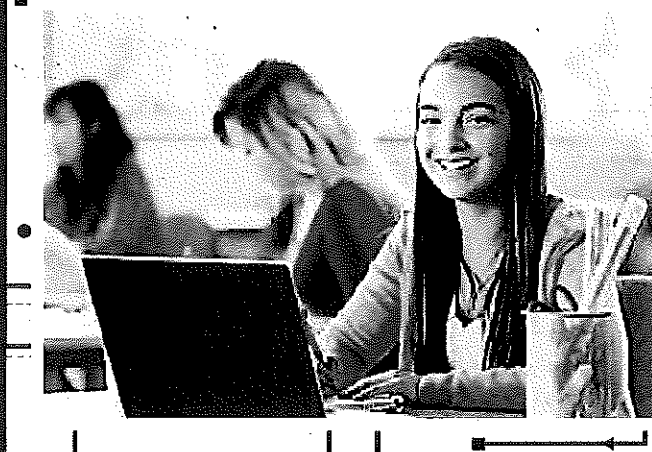
Classes	Description	Credit
ECM Seminar (Required)	College/Career Support and Internship	.5 ECM
Arts and Sciences Group II	(from AAS degree schedule)	4 MCC
ITOS 1710	Introduction to Linux	3 MCC
ITOS 1510	Windows Server Admin 2	4 MCC
ITIA 2310	Information Security Policies & Risk Mgmt	3 MCC
ITNT 1610	Wireless Networking	3 MCC
Associate of Applied Science Degree Credits		17

Term 6—Thirteenth Year

Classes	Description	Credit
ECM Seminar (Required)	College/Career Support and Internship	.5 ECM
Arts and Sciences Group IV	(from AAS degree schedule)	3-4 MCC
BCOM 2050	Business Communications	4 MCC
ITIA 2800	Penetration Testing and Analysis	3 MCC
ITNT 2130	Network Design 1	3 MCC
ITOS 1720	Linux Server Administration	3 MCC
Associate of Applied Science Degree Credits		16-17

Associate of Applied Science Degree Credit Total 71-74
(3 MCC credits from Seminars not included in total)

MMC Michigan Merit Curriculum
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HS High School
MCC Macomb Community College



Information Technology: Website Programming Academy

*A Success
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High School
Juniors*

The Information Technology (IT) Website Programming Academy is for students who want to prepare for immediate work upon graduation as a webmaster or web designer and/or transfer to a four-year college or university to earn a bachelor's degree in website programming. You will be introduced to site design, site architecture and search engine optimization (SEO), as well as development, deployment, maintenance and World Wide Web support techniques. You will learn about current web technologies and website development tools, formatting fonts, data manipulation, factors that influence search engine results, pay-per-click advertising, website analysis and much more.

Lead Faculty:

Jacqueline Wanner
wannerj@macomb.edu

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- Cybersecurity
- Programming
- Website Programming



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Information Technology Website Programming Academy Coursework

Term 1—High School Junior

Classes	Description	Credit
High School Mathematics	Appropriate HS Math Class	.5 HS
High School Science	Appropriate HS Science Class	.5 HS
High School English	HS Composition and Literature	.5 HS
ECM Seminar (Required)	College Readiness Skill Development	.5 HS
ECON 1160	Principles of Economics I	.5HS & 3MCC
ITCS 1010	Computer & Information Processing Principles	4 MCC
Associate of Applied Science Degree Credits		7

Term 2—High School Junior

Classes	Description	Credit
High School Mathematics	Appropriate HS Math Class	.5 HS
High School Science	Appropriate HS Science Class	.5 HS
High School English	HS Composition and Literature	.5 HS
ECM Seminar (Required)	College Readiness Skill Development	.5 HS
POLS 1000	Intro to American Politics	.5HS & 4MCC
ITCS 1140	Introduction to Program Design & Development	4 MCC
Associate of Applied Science Degree Credits		8

Term 3—High School Senior

Classes	Description	Credit
MMC Requirement	Class to meet grad'n req'ts of State/local district	.5 HS
MMC Requirement	Class to meet grad'n req'ts of State/local district	.5 HS
ECM Seminar (Required)	Transition to College/Career and Internship	.5 HS
ENGL 1180 or 1210	Communications 1 or Composition 1	3-4 MCC
ITWP 1000	Introduction to Web Programming	3 MCC
ITCS 1170	Database Design & Implementation With SQL & XML	4 MCC
Associate of Applied Science Degree Credits		10-11

Term 4—High School Senior

Classes	Description	Credit
MMC Requirement	Class to meet grad'n req'ts of State/local district	.5 HS
MMC Requirement	Class to meet grad'n req'ts of State/local district	.5 HS
ECM Seminar (Required)	Transition to College/Career and Internship	.5 HS
ENGL 1190 or 1220	Communications 2 or Composition 2	3-4 MCC
ITWP 1050	Basic Design with Cascading Style Sheets	3 MCC
ITWP 2400	Web Programming with XML	3 MCC
Associate of Applied Science Degree Credits		9-10

Term 5—Thirteenth Year

Classes	Description	Credit
ECM Seminar (Required)	College/Career Support and Internship	.5 ECM
Arts and Sciences Group II	(from AAS degree schedule)	4 MCC
ITWP 1100	Web Programming with JavaScript & Dynamic HTML	3 MCC
ITWP 1400	SEO (Search Engine Optimization) For the Web	4 MCC
ITWP 2300	Building Dynamic, Intelligent Web Based Solutions with ASP.NET	3 MCC
BCOM 2050	Business Communications	4 MCC
Associate of Applied Science Degree Credits		18

Term 6—Thirteenth Year

Classes	Description	Credit
ECM Seminar (Required)	College/Career Support and Internship	.5 ECM
Arts and Sciences Group IV	(from AAS degree schedule)	3-4 MCC
IT Elective	Select any IT course not previously taken	3-4 MCC
ITWP 2550	Mobile Web Development	3 MCC
ITWP 2600	Web Commerce (E-Commerce)	3 MCC
ITWP 2750	Web Programming: PHP	3 MCC
Associate of Applied Science Degree Credits		15-17

Associate of Applied Science Degree Credit Total 67-71
(3 MCC credits from Seminars not included in total)

ECM Seminars 11th through 13th: Student earns 3 MCC credits toward Associate Degree

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