Student Name: _____ ***Total Credit Hours: 69 - 73***

Information Technology: Computer Programming

Maysville Community & Technical College

Open Admissions

Associate in Applied Science

Program Coordinator: **Terry Pasley**

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Academic Plan Code: 1101017079

Academic Sub Code: 110101704

Notes:

1. Required minimum ACT or COMPASS scores: see COMPASS Placement Scores in Master Advising
2. **CIS100 not required for credential, however if student has limited knowledge of Microsoft Office products, enrolling in CIS100 is suggested.**
3. Completion of MT065 suggested before enrolling in ACC201.
4. Certificates can be completed prior to or while earning degree. (See check sheets)

	Math	Reading	Writing
ACT	22	20	18
COMPASS	50 (Algebra)	85	74

General Education & Support Classes *(24-25 credit hours)*		**Credit Hours**	**Semester Taken**
ENG 101	Writing I	3	
ENG 102	Writing II	3	
MAT 150	College Algebra	3	
Choose One Each	*from General Education Area		
	Science Course with Lab*	3-4	
	Oral Communications*	3	
	Heritage/Humanities*	3	
	Social Interaction Crs *	3	

Core Requirements *24-25 Credit Hours*		**Credit Hours**	**Semester Taken**
CIS 120	Program Design & Dev	3	
IT 170	Introduction to Database Design	3	
	Beginning Lvl Program Lang**	3	
	**Choose from list below		
Choose One Grouping			
IT 105	Comp Main Ess **AND**	3	
IT 205	Adv Comp Maintenance	3	
ET 232	Comp Soft Main **AND**	3	
ET 234	Comp Hdw Maintenance	3	
CIS 110	Operating Sys Con **AND**	3	
ET 234	Com Hdw Maintenance	3	
Choose One			
CIS 130	Microcomputer Applications	3	
ET 107	Computer Apps for Technicians	3	
Choose One			
NIS 160	Networking Core Technologies	3	
IT 120	Cisco Internetworking I	3	
Choose One			
IT 130	Web Site Design and Production	4	
IT 132	Web Page Development	3	

Beginning Level Programming Language Courses**		**Credit Hours**	**Semester Taken**
CIS 143	COBOL Programming	3	
CIS 148	Visual Basic I	3	
CIS 149	Java Programming I***	3	
CIS 155	C/C++ Programming I	3	
CS 115	Intro to Comp Programming	3	
IT 147	SQL Programming**	3	
NIS 150	Introduction to Perl*	3	
NIS 152	Introduction to JavaScript*	3	
*Suggested for Electronic Commerce Option			
**Cannot be used to fulfill technical core requirements			
***Suggested for transfer students			

Advanced Level Programming Language Courses		**Credit Hours**	**Semester Taken**
CIS 258	Visual Basic III: Dist Apps	3	
CIS 259	Java Programming III	3	
CIS 260	Java Game Development II	4	
CIS 265	C++ Game Development II	3	

Programming Option Components *24 Credit Hours*		**Credit Hours**	**Semester Taken**
CIS 220	System Analysis and Design	3	
ACC 201	Financial Accounting	3	
	Programming Languages *	12	
	*Must include at least 6 hours		
	above beginning		
	Management Course**	3	
	Choose from list		
Choose One			
COE 199	Cooperative Education	3	
CIS 280	Internship	3	

Management Courses *3 Credit Hours*		**Credit Hours**	**Semester Taken**
BA 200	Small Business Mgmt	3	
BA 274	Human Resource Mgmt	3	
BA 287	Supervisory Management	3	
BA 288	Personal & Org Leader	3	
MFG 256	Production Management	3	
OST 275	Office Management	3	
QMS 101	Intro to Quality Systems	3	
QMS 201	Cust. Service Impr. Skills	3	

Intermediate Level Programming Language Courses		**Credit Hours**	**Semester Taken**
CIS 232	Prog for Windows Environment	3	
CIS 243	COBOL Applications	3	
CIS 248	Visual Basic II: Desktop Apps	3	
CIS 249	Java Programming II	3	
CIS 250	Java Game Development I	3	
CIS 252	Intermediate C/C++ Program	3	
CIS 255	C++ Game Development I	3	
CIS 262	Object Oriented Program in C++	3	
CS 215	Intro to Program Design, Abstractions & Problem Solving	4	

Description
The Information Technology Program offers an Associate in Applied Science degree and certificates in Information Technology Fundamentals, Computer Programming, Database Administration, Electronic Commerce, GIS Essentials, Information Security, Computer Support Specialist, Network Administration, and Web Development. This curriculum is supported by a solid foundation of core courses that focus on problem-solving and communication skills for Information Technology professionals involved in computer network environments. The program provides opportunities for practitioners in a variety of career fields to obtain knowledge and skills that enable them to adapt technology use to specific needs in their field of study.

Students entering this program will need to have basic computer skills such as would be obtained through CIS 100 (Introduction to Computers) or equivalent.

The Computer Programming Option/Certificate provides students with an introduction to programming languages with at least one of the languages studied at the intermediate level. Students will have the opportunity to study one language in depth or develop a breadth of knowledge in several languages. Students completing this option are prepared for the entry-level computer programmer positions.

Total Credit Hours: 69 - 73

Computer Programming option/certificate:
Upon completion of the option/certificate, the student can:

1. Use a software development kit or environment to write, compile, debug test and run programs of varying degrees of difficulty.
2. Write programs that use operators and assignment statements correctly.
3. Write programs that take advantage of a graphical user interface.
4. Write programs that use predefined and user-defined data types correctly.
5. Write programs that use arrays correctly.
6. Write programs that use repetition techniques such as for loops, do-while loops, while loops, and nested loops.
7. Develop internal and external documentation (hard copy and on-line).
8. Write programs that use decision-making techniques such as if statements, nested if statements and multi-way decisions.
9. Write programs that recover gracefully from error conditions.
10. Write programs that can respond to several forms of user input, including, but not limited to, mouse clicks, keyboard input and output operations to character and binary streams.
11. Write programs that can print.
12. Write programs that take advantage of network or database connectivity.
13. Explain fundamental program design concepts: structured, procedural, and object-oriented.
14. Demonstrate fundamental knowledge of business principles and practices.
15. Demonstrate ability to execute all stages of a program development cycle.
16. Demonstrate ability to control the screen width and height.
17. Demonstrate ability to control object placement on the screen.
18. Use a program to correctly position objects.
19. Demonstrate a knowledge of inheritance and polymorphism.
20. Demonstrate a knowledge of reusability for large programs.
21. Demonstrate ability to insert and animate graphics within programs.
22. Demonstrate the ability to use advanced programming techniques.