

Student Name: \_\_\_\_\_

**Computer & Information Technologies:  
Information Security Track (60 Total Credit Hrs)**

Maysville Community & Technical College

Open Admissions

Associate in Applied Science (AAS) Degree

Sharon Staviski, Program Coordinator

Phone: (606)-783-1538 ext. 66318

Office: 206E Rowan Campus

Email: sharon.staviski@kctcs.edu

Academic Plan Code: 1101017089

Academic Sub Code: 110101712

Academic Program Code: ENTC

| General Education<br>(15 credit hours)                     |  | Credit Hours | Semester Taken |
|--|--|--------------|----------------|
| ENG 101  | Writing I                                      | 3            |                |
| MAT 126  | Technical Algebra and Trigonometry (or higher) | 3            |                |
| <b>* Choose (1) Course from the General Education Area</b> |  |              |                |
|  | *Natural Sciences Course                       | 3            |                |
|  | *Heritage / Humanities Course                  | 3            |                |
|  | *Social / Behavioral Sciences Course           | 3            |                |
| <b>Subtotal</b>  |  | <b>15</b>    |                |

| Core Requirements |  | Credit Hours | Semester Taken |
|-------------------|--|--------------|----------------|
| CIT 105           | Introduction to Computers                    | 3            |                |
| CIT 111           | Computer Hardware and Software               | 4            |                |
| CIT 120           | Computational Thinking                       | 3            |                |
| CIT 170           | Database Design Fundamentals                 | 3            |                |
| CIT 180           | Security Fundamentals                        | 3            |                |
|                   | Approved Level I Networking Course           | 4            |                |
|                   | Approved Level I Programming Language Course | 3            |                |
| CIT 293           | CIT Employability Studies                    | 1            |                |
| <b>Subtotal</b>   |  | <b>24</b>    |                |

| Approved Level I Programming Language Courses<br>(Choose (1) Course) |  | Credit Hours | Semester Taken |
|--|--|--------------|----------------|
| CIT 140  | JavaScript I   | 3            |                |
| CIT 141  | PHP I  | 3            |                |
| CIT 142  | C++ I  | 3            |                |
| CIT 144  | Python I   | 3            |                |
| CIT 145  | Perl I   | 3            |                |
| CIT 147  | Programming I: Language  | 3            |                |
| CIT 148  | Visual Basic I   | 3            |                |
| CIT 149  | Java I   | 3            |                |
| CIT 171  | SQL I  | 3            |                |
|  | University Level I programming language as approved by Program Coordinator | 3-4          |                |

**Notes:**

- It is the responsibility of the student to notify their Advisor of changes they have made to their class schedule. Failure to do so could result in a delayed graduation date or ineligibility for graduation. (*Examples: Online registration, drop/add, or change of class sequence.*)
- Students that are currently taking Developmental Math Courses should work towards completing MAT 126 as soon as possible.
  - MAT 65 must be completed before enrolling into a Level I Networking course; OR Consent of Instructor.
  - MAT 85 must be completed before enrolling into CIT 111 and/or CIT 120; OR Consent of Instructor.
  - MAT 126 is suggested as an approved Quantitative Reasoning course, which must be completed before enrolling into CIT 170; OR Consent of Instructor.
- Certificates may also be completed prior to or while earning an AAS degree. (Refer to MCTC's CIT Program Website).
- AAS Degrees can be transferable to Four-Year Institutions that offer a Baccalaureate Degree. Students should consult their Advisor or Program Coordinator regarding Transfer Agreements.
- Students may only use a course with a grade of "C" or higher to fulfill a core or track graduation requirement.
- In order to obtain an AAS Degree, students are required to maintain a minimum cumulative GPA of 2.0.
- Required minimum ACT, TABE, KYOTE or COMPASS placement scores for general education courses are listed below.

|                | Math            | Reading   | Writing   |
|----------------|-----------------|-----------|-----------|
| <b>ACT</b>     | 19              | 20        | 18        |
| <b>COMPASS</b> | ALG 25          | 85        | 74        |
| <b>KYOTE</b>   | CA 14 or higher | N/A       | N/A       |
| <b>TABE</b>    | N/A             | 12.2-12.9 | 12.8.12.9 |

| Information Security Track<br>(24 Credit Hours) |  | Credit Hours | Semester Taken |
|---|--|--------------|----------------|
| CIT 182   | Perimeter Defense                                      | 3            |                |
| CIT 184   | Attacks and Exploits                                   | 3            |                |
| CIT 217   | UNIX / Linux Administration                            | 3            |                |
|   | Approved Network Elective Courses (Choose (2) Courses) | 6            |                |
|   | Approved Security Elective Course                      | 3            |                |
|   | Approved CIT Technical Courses                         | 3            |                |
| <b>Track Subtotal</b>                           |  | <b>21</b>    |                |

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| Approved Network Elective Courses (Choose 2 courses) |  | Credit Hours | Semester Taken |
|--|--|--------------|----------------|
| CIT 167  | Routing and Switching Essentials   | 4            |                |
| CIT 209  | Scaling Networks   | 4            |                |
| CIT 212  | Connecting the Networks  | 4            |                |
| CIT 213  | Microsoft Client Configuration   | 3            |                |
| CIT 214  | Microsoft Server Configuration   | 3            |                |
| CIT 215  | Microsoft Server Administration  | 3            |                |
| CIT 216  | Microsoft Server Advanced Services   | 3            |                |
| CIT 218  | UNIX/Linux Net Infrastructure  | 3            |                |
| CIT 219  | Internet Protocols   | 3            |                |
| CIT 260  | Network Hardware Installation and Troubleshooting  | 3            |                |
| CIT 263  | Advanced Microsoft Topics<br>OR other MS networking courses as approved by the program coordinator | 3            |                |

| Approved Security Elective Courses |                        | Credit Hours | Semester Taken |
|------------------------------------|------------------------|--------------|----------------|
| CIT 284                            | Computer Forensics     | 3            |                |
| CIT 285                            | Windows OS Security    | 3            |                |
| CIT 286                            | UNIX/Linux OS Security | 3            |                |
| CIT 287                            | Cisco OS Security      | 3            |                |
| CIT 288                            | Network Security       | 3            |                |

| Approved CIT Technical Courses (6 Credit Hours) (Choose 2 Courses) |  | Credit Hours | Semester Taken |
|--|--|--------------|----------------|
|  |  |              |                |
|  |  |              |                |

**Program Description**

**The Computer Information Technology (CIT)** program includes tracks in Applications, Information Security, Internet Technologies, Network Administration, Network Technologies, and Programming, with a core of courses common to all. The core includes a general education component essential to a collegiate education and a technical component giving students an introduction to information systems, computer applications, program development, system maintenance, networking, security, Internet technologies, database design, and collaborative system development. In addition to core courses, students take specialty courses for their selected track.

**The Information Security Track** provides a solid background in information security. Fundamentals of information security, offensive and defensive techniques, and security topics such as operating system security, network security design, or other security topics are covered. This track will help prepare students for entry-level positions of network security, auditing and penetration testing, firewall configuration, and computer crime investigation.

**Upon completion of this program, the graduate can:**

1. Explain the fundamental principles of information security.
2. Prepare for the common attacks and exploits against computers and networks.
3. Apply data security methodologies in situational cases to scan network computers and applications for vulnerabilities.
4. Configure firewalls and other perimeter defenses against attacks.
5. Install and configure intrusion detection software.
6. Describe basic functions of the Linux operating system.
7. Demonstrate a working knowledge of an elective security topic, such as operating system security, network security, computer forensics, or another selected security topic.
8. Recognize and recall major elements and methods of securing networks and workstations.
9. Identify basic attributes, purposes, and functions of network components including wireless technologies.
10. Assess the security needs of computer and network systems to recommend safeguard solutions for maintenance of security devices, systems, and procedures.

**Total Credit Hours: 60**

**\*\*Technical Course Notes:**

- Or other courses approved by Computer & Information Technologies Program Coordinator.
- Students may choose CIT 290 or COE 199 for a maximum of 3 credit hours.
- Students may NOT use one course to fulfill multiple requirements