

# Computer Technology

---

## Computer Technology Associate in Applied Science

### **Mission Statement:**

The Associate of Applied Science Computer Technology degree program prepares students for entry-level computer technology positions. Emphasis throughout the program's duration is placed on effective computer and communication skills.

### **Entrance Requirements:**

Acceptable placement test score(s), plus high school diploma or GED

### **Type of Program:**

Day, evening, or online

### **Employment Opportunities:**

Technology services companies, internet service providers, insurance companies, hospitals, manufacturing firms, software development companies, and other business and industry.

- The Computer Technology Associate in Applied Science degree allows students to select one of the following concentrations:
  - Cybersecurity**
  - Network Administration**
  - Programming**
  - Systems Administration**
- Students will be awarded one degree in one of the four concentrations.
- The **Cybersecurity Concentration** trains students how to protect and defend computer systems, networks, programs, and databases against cyber-attacks. Emphasis is placed on implementing defensive tools to prevent cyber-attacks, learning how to simulate attacks to defend against them, and in the event of a successful attack, knowing how to recognize the effects and repair the damage as quickly as possible.
- The **Network Administration Concentration** trains students in computer technical support, router configuration and security, network systems administration, Voice over IP (VoIP), and network security.
- The **Programming Concentration** trains students to design and develop web and mobile applications using object-oriented languages and databases, including Microsoft C#, SQL, and ASP, Java, HTML5, CSS, JavaScript, and PHP.
- The **Systems Administration Concentration** trains students to install, configure, secure, and maintain computer hardware including data center servers and business workstations using Microsoft and Linux operating systems, as well as cloud technologies used for virtualization and data center management.
- This program requires a minimum grade of "C" in all CPT and IST courses.
- Listed below is the ideal grouping of courses in order by semester. This plan assumes a full-time schedule. Many variables can affect this plan, and not every course is offered every semester. CPT Department students should see their academic advisor to map out their own personalized progression toward graduation.

## Recommended Program Schedule for the Cybersecurity Concentration

### First Semester

|     |     |                                       |     |
|-----|-----|---------------------------------------|-----|
| CPT | 113 | Information Systems                   | 3.0 |
| IST | 220 | Data Communications                   | 3.0 |
| CPT | 257 | Operating Systems                     | 3.0 |
| MAT | 103 | Quantitative Reasoning *              | 3.0 |
|     |     | or                                    |     |
| MAT | 109 | College Algebra with Modeling *       |     |
|     |     | or                                    |     |
| MAT | 120 | Probability and Statistics *          |     |
|     |     | or higher college transferable math * |     |
| ENG | 101 | English Composition I *               | 3.0 |

### Second Semester

|     |     |  |     |
|-----|-----|--|-----|
| IST | 110 | Introduction to Cyberspace and Cybersecurity | 3.0 |
| IST | 266 | Internet and Firewall Security               | 3.0 |
| CPT | 170 | Microcomputer Applications                   | 3.0 |
| CPT | 209 | Computer Systems Management                  | 3.0 |
| SPC | 205 | Public Speaking *                            | 3.0 |
|     |     | or   |     |
| SPC | 209 | Interpersonal Communications *               |     |

### Third Semester

|     |     |                         |     |
|-----|-----|-------------------------|-----|
| IST | 293 | IT and Data Assurance I | 3.0 |
| CPT | 230 | C# Programming I        | 3.0 |
| IST | 226 | Internet Programming    | 3.0 |
| IST | 272 | Relational Database     | 3.0 |

### Fourth Semester

|     |     |                                    |     |
|-----|-----|------------------------------------|-----|
| IST | 267 | Network Vulnerability Assessment   | 3.0 |
| IST | 291 | Fundamentals of Network Security I | 3.0 |
| CPT | 264 | Systems and Procedures             | 3.0 |
| CPT | 267 | Technical Support Concepts         | 3.0 |
|     |     | Humanities/Fine Arts Elective *    | 3.0 |

### Fifth Semester

|     |     |                                     |     |
|-----|-----|-------------------------------------|-----|
| IST | 292 | Fundamentals of Network Security II | 3.0 |
| IST | 294 | IT and Data Assurance II            | 3.0 |
| CPT | 275 | Computer Technology Senior Project  | 3.0 |
|     |     | Social Science Elective *           | 3.0 |

**Total Required Credit Hours: 69.0**

\* General education course

## Recommended Program Schedule for the Network Administration Concentration

### First Semester

|     |     |                                       |     |
|-----|-----|---------------------------------------|-----|
| CPT | 113 | Information Systems                   | 3.0 |
| IST | 220 | Data Communications                   | 3.0 |
| CPT | 257 | Operating Systems                     | 3.0 |
| MAT | 103 | Quantitative Reasoning *              | 3.0 |
|     |     | or                                    |     |
| MAT | 109 | College Algebra with Modeling *       |     |
|     |     | or                                    |     |
| MAT | 120 | Probability and Statistics *          |     |
|     |     | or higher college transferable math * |     |
| ENG | 101 | English Composition I *               | 3.0 |

### Second Semester

|     |     |                                |     |
|-----|-----|--------------------------------|-----|
| IST | 201 | Cisco Networking Concepts      | 3.0 |
| CPT | 170 | Microcomputer Applications     | 3.0 |
| CPT | 209 | Computer Systems Management    | 3.0 |
| CPT | 230 | C# Programming I               | 3.0 |
| SPC | 205 | Public Speaking *              | 3.0 |
|     |     | or                             |     |
| SPC | 209 | Interpersonal Communications * |     |

### Third Semester

|     |     |                            |     |
|-----|-----|----------------------------|-----|
| IST | 202 | Cisco Router Configuration | 3.0 |
| IST | 226 | Internet Programming       | 3.0 |
| CPT | 267 | Technical Support Concepts | 3.0 |
| IST | 272 | Relational Database        | 3.0 |

### Fourth Semester

|     |     |                                      |     |
|-----|-----|--------------------------------------|-----|
| IST | 203 | Advanced Cisco Router Configuration  | 3.0 |
| IST | 295 | Fundamentals of Voice Over IP (VoIP) | 3.0 |
| IST | 266 | Internet and Firewall Security       | 3.0 |
| CPT | 264 | Systems and Procedures               | 3.0 |
|     |     | Humanities/Fine Arts Elective *      | 3.0 |

### Fifth Semester

|     |     |                                    |     |
|-----|-----|------------------------------------|-----|
| IST | 204 | Cisco Troubleshooting              | 3.0 |
|     |     | Technical Elective **              | 3.0 |
| CPT | 275 | Computer Technology Senior Project | 3.0 |
|     |     | Social Science Elective *          | 3.0 |

**Total Required Credit Hours: 69.0**

\* General education course

\*\* Student must choose one CPT/IST elective from one of the other concentrations

## Recommended Program Schedule for the Programming Concentration

### First Semester

|     |     |                                       |     |
|-----|-----|---------------------------------------|-----|
| CPT | 113 | Information Systems                   | 3.0 |
| IST | 220 | Data Communications                   | 3.0 |
| CPT | 257 | Operating Systems                     | 3.0 |
| MAT | 103 | Quantitative Reasoning *              | 3.0 |
|     |     | or                                    |     |
| MAT | 109 | College Algebra with Modeling *       |     |
|     |     | or                                    |     |
| MAT | 120 | Probability and Statistics *          |     |
|     |     | or higher college transferable math * |     |
| ENG | 101 | English Composition I *               | 3.0 |

**Second Semester**

|     |     |                                |     |
|-----|-----|--------------------------------|-----|
| IST | 226 | Internet Programming           | 3.0 |
| CPT | 230 | C# Programming I               | 3.0 |
| CPT | 209 | Computer Systems Management    | 3.0 |
| CPT | 170 | Microcomputer Applications     | 3.0 |
| SPC | 205 | Public Speaking *              | 3.0 |
|     |     | or                             |     |
| SPC | 209 | Interpersonal Communications * |     |

**Third Semester**

|     |     |                             |     |
|-----|-----|-----------------------------|-----|
| CPT | 231 | C# Programming II           | 3.0 |
| IST | 239 | Programming Elective #1 *** | 3.0 |
| CPT | 267 | Technical Support Concepts  | 3.0 |
| IST | 272 | Relational Database         | 3.0 |

**Fourth Semester**

|     |     |                                 |     |
|-----|-----|---------------------------------|-----|
| CPT | 239 | Active Server Pages             | 3.0 |
| IST | 278 | Database Programming            | 3.0 |
| IST | 266 | Internet and Firewall Security  | 3.0 |
| CPT | 264 | Systems and Procedures          | 3.0 |
|     |     | Humanities/Fine Arts Elective * | 3.0 |

**Fifth Semester**

|     |     |                                    |     |
|-----|-----|------------------------------------|-----|
|     |     | Programming Elective #2 ***        | 3.0 |
|     |     | Programming Elective #3 ***        | 3.0 |
|     |     | or                                 |     |
|     |     | Technical Elective **              |     |
| CPT | 275 | Computer Technology Senior Project | 3.0 |
|     |     | Social Science Elective *          | 3.0 |

**Total Required Credit Hours:****69.0**

\* General education course

\*\* Student may choose one CPT/IST elective from one of the other concentrations

\*\*\* Programming Electives:

|     |     |                                  |     |
|-----|-----|----------------------------------|-----|
| IST | 239 | Datum and JavaScript             | 3.0 |
| CPT | 236 | Introduction to JAVA Programming | 3.0 |
| CPT | 237 | Advanced JAVA Programming        | 3.0 |
| CPT | 283 | PHP Programming I                | 3.0 |

**Recommended Program Schedule for the Systems Administration Concentration****First Semester**

|     |     |                                       |     |
|-----|-----|---------------------------------------|-----|
| CPT | 113 | Information Systems                   | 3.0 |
| IST | 220 | Data Communications                   | 3.0 |
| CPT | 257 | Operating Systems                     | 3.0 |
| MAT | 103 | Quantitative Reasoning *              | 3.0 |
|     |     | or                                    |     |
| MAT | 109 | College Algebra with Modeling *       |     |
|     |     | or                                    |     |
| MAT | 120 | Probability and Statistics *          |     |
|     |     | or higher college transferable math * |     |
| ENG | 101 | English Composition I *               | 3.0 |

**Second Semester**

|     |     |                                |     |
|-----|-----|--------------------------------|-----|
| IST | 190 | Linux Essentials               | 3.0 |
| CPT | 170 | Microcomputer Applications     | 3.0 |
| CPT | 209 | Computer Systems Management    | 3.0 |
| CPT | 230 | C# Programming I               | 3.0 |
| SPC | 205 | Public Speaking *              | 3.0 |
|     |     | or                             |     |
| SPC | 209 | Interpersonal Communications * |     |

**Third Semester**

|     |     |                                 |     |
|-----|-----|---------------------------------|-----|
| IST | 257 | LAN Network Server Technologies | 3.0 |
| IST | 226 | Internet Programming            | 3.0 |
| CPT | 267 | Technical Support Concepts      | 3.0 |
| IST | 272 | Relational Database             | 3.0 |

**Fourth Semester**

|     |     |                                 |     |
|-----|-----|---------------------------------|-----|
| IST | 258 | LAN Directory Services          | 3.0 |
| IST | 191 | Linux Systems Administration    | 3.0 |
| IST | 266 | Internet and Firewall Security  | 3.0 |
| CPT | 264 | Systems and Procedures          | 3.0 |
|     |     | Humanities/Fine Arts Elective * | 3.0 |

**Fifth Semester**

|     |     |                                    |     |
|-----|-----|------------------------------------|-----|
| IST | 198 | Cloud Essentials                   | 3.0 |
|     |     | Technical Elective **              | 3.0 |
| CPT | 275 | Computer Technology Senior Project | 3.0 |
|     |     | Social Science Elective *          | 3.0 |

**Total Required Credit Hours:****69.0**

\* General education course

\*\* Student must choose one CPT/IST elective from one of the other concentrations

Visit <https://www.gvltec.edu/gainful-employment/> for important information about the educational debt, earnings and graduation rates of students who attended programs.