

# Computer Information Technology Internet of Things

## An Associate of Applied Science Degree Program

### PROGRAM DESCRIPTION

The primary objective of the Internet of Things concentration (IoT) is to prepare individuals for employment in the field of computer science as an entry-level IoT technician. With the acquired skills and knowledge gained, the student will learn how to implement sensors, microcontrollers, with cloud-based storage, learn how to program embedded devices with serious consideration on security. Students will also develop strong critical-thinking skills and will learn by doing within a hands-on lab environment.

### APPLICATION PROCEDURE

A student desiring to pursue an Associate of Applied Science degree in Computer Information Technology - Concentration: Internet of Things must:

1. Submit the Northeast State Application for Admission to the Office of Admissions and Records.
2. Indicate Computer Information Technology - Concentration: Internet of Things as the desired major on the Northeast State application form.
3. See a faculty advisor from the Computer Information Technology program prior to registering for classes and obtain faculty approval to register.

### TYPICAL PROGRAM OF STUDY

| Course No.    | Course Title   | Credit |
|---------------|--|--------|
| <b>FALL</b>   |  |        |
| CITC 1302     | Introduction to Networking   | 3      |
| EDUC 1030     | College and Lifelong Learning  | 3      |
| ENGL 1010     | English Composition I  | 3      |
| INFS 1010     | Computer Applications  | 3      |
| MATH 1530     | Introductory Statistics  | 3      |
| <b>SPRING</b> |  |        |
| CITC 1300     | Beginning HTML and CSS   | 3      |
| CITC 1301     | Introduction to Programming and Logic                                | 3      |
| CITC 1303     | Database Concepts  | 3      |
| CITC 1341     | Introduction to the Internet of Things                               | 3      |
| Elective      | Communication (an approved elective from the general education core) | 3      |
| <b>FALL</b>   |  |        |
| CITC 1332     | UNIX/Linux Operating System  | 3      |
| CITC 2345     | Cloud Computing  | 3      |
| CITC 2357     | Security of the Internet of Things                                   | 3      |
| ECON 2100     | Principles of Macroeconomics   | 3      |
| HUM 2350      | Technology in Society  | 3      |
| <b>SPRING</b> |  |        |
| CISP 2410     | Assembly and Computer Organization                                   | 4      |
| CITC 2326     | Network Security   | 3      |
| CITC 2343     | Programming Embedded Systems   | 3      |
| CITC 2390     | CIT Capstone   | 3      |
| PHYS 1030     | Survey of Physics  | 4      |
| or            |  |        |
| PSCI 1010     | Principles of Physical Science                                       | 4      |
| Total Credit  |  | 62     |

Additional courses may be required to overcome deficiencies in English, mathematics, and reading.

## TYPICAL JOB OPPORTUNITIES

**Computer Programmer:** Modifies programs, creates application reports, and develops new applications using Visual Basic, Java, Python, or other software programs.

**Software Maintenance Specialist:** Maintains software applications using standard programming languages or modules.

**Information Retention Manager:** Manages the acquisition and retention of data in existing software applications and databases.

## PROGRAM COMPETENCIES

The graduate is competent to:

1. Apply basic business principles, math concepts, and computational skills to business and technical problems common to computer science.
2. Demonstrate standard written and spoken English, and professional conduct to effectively communicate and succeed in a business/computer setting.
3. Select and use industry and subject specific software and hardware.
4. Apply problem-solving skills appropriate for employment in a computer and information science specialty.
5. Develop, implement, troubleshoot, and operate networks, desktop and web applications, object oriented programs and scripts, and IT security as required by a computer and information science specialty.
6. Upon completion of the program, all students will demonstrate critical thinking skills for inquiry and analysis, assimilation of facts and knowledge, and problem solving.

## FOR FURTHER INFORMATION CONTACT:

Dr. Donna Farrell  
Department Head/Assistant Professor  
Computer and Information Sciences  
Telephone: 423.354.2407  
dsfarrell@NortheastState.edu

or

David Blair  
Dean, Technologies Division  
Telephone: 423.354.5269  
dlblair@NortheastState.edu

or

Technologies Division  
Telephone: 423.354.2420

**Average Starting Salary\***  
\$49,540

**\*Source:**

Bureau of Labor Statistics, Occupational Employment Statistics Survey; Tennessee Department of Labor and Workforce Development, Labor Market Information

Northeast State Community College is part of the Tennessee Board of Regents system, Tennessee's largest higher education system, governing 40 post-secondary educational institutions with over 200 teaching locations. The TBR system includes 13 two-year colleges, 27 colleges of applied technology, and TN eCampus, providing programs to students across the state, country, and world.

Northeast State Community College does not discriminate on the basis of race, color, religion, creed, ethnic or national origin, sex, disability, age status as a protected veteran or any other class protected by Federal or State laws and regulations and by Tennessee Board of Regents policies with respect to employment, programs, and activities. The following person has been designated to handle inquiries regarding the non-discrimination policies: Linda W. Calvert, Vice President for Administration & Grant Development, AffAct@NortheastState.edu, P.O. Box 246, Blountville, TN 37617-0246, 423.323.0222.

Northeast State Community College's policy on nondiscrimination can be found at <https://apps.northeast-state.edu/ie/policymanual/pol.asp?p=254>.

Northeast State is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award the associate degree. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097 or call 404-679-4500 for questions about the accreditation of Northeast State.