**BARTON COMMUNITY COLLEGE**

**COURSE SYLLABUS**

# **GENERAL COURSE INFORMATION**

Course Number: PRGM 1007

Course Title: Foundations of Computer Science

Credit Hours: 3

Prerequisite: Computer experience

Division/Discipline: WTCE

Course Description: This course is an introduction to computer science for computer science and computer information system majors. It provides an introduction to computer science concepts and covers a breadth of topics including: computer history, hardware, software, binary, data storage, operating systems, networking, problem solving, programming, applications, security, privacy, and ethics.

# **INSTRUCTOR INFORMATION**

# **COLLEGE POLICIES**

Students and faculty of Barton Community College constitute a special community engaged in the process of education. The College assumes that its students and faculty will demonstrate a code of personal honor that is based upon courtesy, integrity, common sense, and respect for others both within and outside the classroom.

Plagiarism on any academic endeavors at Barton Community College will not be tolerated. The student is responsible for learning the rules of, and avoiding instances of, intentional or unintentional plagiarism. Information about academic integrity is located in the Student Handbook.

The College reserves the right to suspend a student for conduct that is determined to be detrimental to the College educational endeavors as outlined in the College Catalog, Student Handbook, and College Policy & Procedure Manual. (Most up-to-date documents are available on the College webpage.)

Any student seeking an accommodation under the provisions of the Americans with Disability Act (ADA) is to notify Student Support Services via email at [disabilityservices@bartonccc.edu](mailto:disabilityservices@bartonccc.edu).

# **COURSE AS VIEWED IN THE TOTAL CURRICULUM**

This course is an introduction to Computer Science covering a breadth of topics from the discipline. This course serves as a major requirement to students in the Computer Science and Computer Information Systems programs at Barton Community College.

# **ASSESSMENT OF STUDENT LEARNING**

Barton Community College is committed to the assessment of student learning and to quality education. Assessment activities provide a means to develop an understanding of how students learn, what they know, and what they can do with their knowledge. Results from these various activities guide Barton, as a learning college, in finding ways to improve student learning.

Course Outcomes, Competencies, and Supplemental Competencies:

1. Identify hardware and software components of a computer
   1. Identify internal components of a computer
   2. Recognize multiple I/O devices and ports
   3. Explain the difference between machine language and high-level languages
2. Recognize networking and web fundamentals
   1. Recognize various network medium
   2. Explain the TCP/IP networking model
   3. Categories networks by type
   4. Create a simple web page using HTML
3. Recognize the binary number system and how data is stored
   1. Convert between the binary and decimal number system
   2. Explain how various types of data is stored in a computer
   3. Recognize compression techniques
4. Recognize problem solving strategies and software development
   1. Explain multiple problem solving strategies
   2. Identify the steps in software development
5. Explain common operating systems and their role in a computer
   1. Identify common operating systems and their features
   2. Explain the basic functions of an operating system
6. Identify common privacy and security issues
   1. Explain good internet usage to maintain privacy and security
   2. Identify privacy concerns of the Internet
   3. Recognize various types of malware
   4. Identify common terms and methods used in cryptography
7. **INSTRUCTOR'S EXPECTATIONS OF STUDENTS IN CLASS**

# **TEXTBOOKS AND OTHER REQUIRED MATERIALS**

# **REFERENCES**

# **METHODS OF INSTRUCTION AND EVALUATION**

# **ATTENDANCE REQUIREMENTS**

1. **COURSE OUTLINE**