

# Syllabus: CIS 127 Programming and Problem Solving

Course Information			
Course Prefix/Number: CIS 127		Credit Hours: 3	
Semester: Fall 2019		Course Title: Programming and Problem Solving	
Class Days/Times: <b>Tuesday/Thursday 3:00</b> –			
4:15 PM		Room: Main IWK 24	
	Phone/Voice Mail: 52	0-383-0102	
Instructor Information:	E-mail: tfoster@tocc.edu		
Name: Tim Foster	Office location: Ha-Macamdam Ha-Ki Room 119		
	Office hours: TBD - or by appointment		

**Course Description:** Prerequisites: MAT 151 – C or Better

Introduction to computer systems. Includes terminology, fundamental concepts of information systems, hardware, software, operating systems with emphasis on computer programming and problem solving. Also includes advantages/disadvantages of different language types, source code versus executable code, data structure and data representation, natural and artificial language statements, syntax, semantics, expressions, control structures and procedural abstraction. Also includes concepts of problem solving techniques, creating test data, program debugging, and program termination, solving simple problems and the use of Visual Basic

programming language, programming environment and hardware, and using computers and other methods to complete assignments.

#### **Course Objectives:**

#### **During this course students will:**

- 1. Review basic computer skills and knowledge of how computers hardware and software work.
- 2. Create correct if-then statements.
- 3. Create correct repetition structures.
- 4. Utilize arrays/lists in programs.
- 5. Create test cases and debug programs.
- 6. Create modular programs using parameter passing to solve problems.
- 7. Use object oriented concepts including encapsulation, constructors, methods, and properties

#### **Course Outcomes**

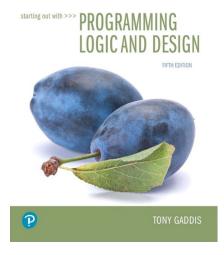
- 1. Students will create operational programs.
- 2. Students will demonstrate problem solving skills while programming.
- 3. Students will debug and correct issues in programs.

#### **Course Structure:**

This hybrid course will consist of Lecture, Discussion, Reading, Writing Reflections, Lab Activities, Examination, and a Final Project. The majority of class business will be conducted in Canyas.

**Texts and Materials:** (*list text(s)*, *and materials students will need*)

1. Starting out with Program Logic and Design ISBN -13 978-0-13-480115-5



## 2. <u>Code.org</u>

# **Evaluation and Grading & Assignments**

## **Grading Procedures and Policy**

Written assignments are to be free of grammatical and spelling errors. Written assignments must be uploaded and turned in ON or BEFORE the assignment deadline as an <u>APA formatted</u> MSWord document double spaced with size 12 font Times New Roman.

## Grading is weighted according to the following categories:

Attendance 5%

Reflection Activities 25%

Quizzes 10%

Exams 15%

Final Project 45%

## **Grade Scale**

"A" 90% – 100%

"B" 80% - 89%

"C" 70% - 79%

"D" 60% - 69%

"F" 0% - 59%

## **Himdag Cultural Component:**

Respect for each other and the learning process is a requirement for this course. Together we will journey along a path of discovery that will enable students to better communicate with others in the written and oral forms using technology.

#### Policies and expectations

Participation and critical thinking are required!

Attendance is mandatory and consists of 5% of the grade.

All students are expected to complete their own individual work.

All students are expected to contribute equally to their group and complete group work assignments.

Students will be required to have read the text before class and be prepared for discussion.

Late Work will NOT be accepted. I will, of course, accept early work.

Missed exams and quizzes will be graded as 0 (zero) points.

<u>Plagiarism</u> will result in a "0" (zero) score for that assignment and reported to the Dean.

Student behavior will also be assessed per the school's code of conduct. Student Handbook

#### **ADA** statement

Tohono O'odham Community College complies with the Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973, as amended. In addition, TOCC

complies with other applicable federal and state laws and regulations that prohibit discrimination on the basis of disability.

Reasonable accommodations, including materials in an alternative format, will be made for individuals with disabilities when a minimum of five working days advance notice is given. Students needing accommodations are encouraged to contact the Vice President of Student Services, at (520) 383-8401. For additional information, see the TOCC Student Handbook.

# **Important Dates**

Fall Semester 2019		
First Day of Classes	Aug 19, 2019	
Add without Instructor's signature	Aug 19 - 23, 2019	
Add with Instructor's signature	Aug 26 - 30, 2019	
Labor Day - College Closed	Sep 2, 2019	
Drop/Full Refund Deadline	Sep 3, 2019	
O'odham Tas - College Closed	Sep 27, 2019	
Fall Break - No Classes	Sept 30 - Oct 3, 2019	
45th Day Census	Oct 3, 2019	
St. Francis Day - College Closed	Oct 4, 2019	
Withdrawal Deadline	Nov 4, 2019	
Veteran's Day - College Closed	Nov 11, 2019	
Thanksgiving Holiday - College Closed	Nov 28-29, 2019	
Last Week of Classes/Final Exams	Dec 9 - 13, 2019	
Final Grades Due	Dec 17, 2019	
Winter Break - College Closed	Dec 25, 2019 - Jan 1, 2020	

### **Course Outline and Tentative Schedule:**

CIS 127 - Programming and Problem Solving I

Prerequisites: MAT 151 C or Better

- I. Fundamental information systems review
  - A. Hardware
    - 1. Operating Systems
      - a. Terminology
      - b. Input/Output Devices
      - c. Storage Medium
  - B. Software
    - 1. Operating Systems
      - a. Terminology
- II. Problem Solving
  - A. Process
- III. Programming Languages

- A. Advantages
- B. Disadvantages
- IV. Coding Types
  - A. Source
  - B. Executable
- V. Coding Syntax
- VI. Data Structures
  - A. Reports
- VII. Statements
  - A. Natural
  - B. Artificial
- C. Syntax
- D. Semantics
- E. Expressions
  - 1. Control Structures
- F. Procedural Abstraction
- VIII. Visual Basic Language
- IX. Programming Environment
- X. Program Debugging

**DISCLAIMER:** This syllabus is designed to evolve and change throughout the semester based on class progress and interests. You will be notified of any changes as they occur.