Syllabus: *CIS 127 Programming and Problem Solving*

Course Information	
Course Prefix/Number: CIS 127	Credit Hours: 3
Semester: Spring 2019	Course Title: Programming and Problem Solving
Class Days/Times: **Tuesday/Thursday 10:30 – 11:45 AM**	Room: Main IWK 24

Instructor Information: Name: Tim Foster	Phone/Voice Mail: 520-383-0102 E-mail: tfoster@tocc.edu Office location: Ha-Macamdam Ha-Ki Room 119 Office hours: TBD - 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 Canvas.

Texts and Materials:
1. Getting Started with Programming Logic and Design, Pearson, 2019
   ISBN- 13 978-0-480115-5
2. Code.org

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 APA formatted 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.

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

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

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[Plagiarism](#) 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

First Day of Classes with Welcome/Blessing Jan 14, 2019
Add without Instructor's signature Jan 14 - 18, 2019
Martin Luther King Jr. Day - College Closed Jan 21, 2019
Add with Instructor's signature Jan 22 - 28, 2019
Drop/Full Refund Deadline Jan 29, 2019
President's Day - College Closed Feb 18, 2019
45th Day Census Feb 28, 2019
Spring Break Mar 11-15, 2019
Withdrawal Deadline Mar 29, 2019
Last Week of Classes/Final Exams May 6-10, 2019
Final Grades Due May 14, 2019
Commencement May 17, 2019

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

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                    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
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