A. Protocol

Course Name: Structures of Programming Languages
Course Number: CSC 455
Credits: 3
Prerequisites: CSC 328 Data Structures with C- or better

Maximum Class Size (face-to-face): 32
Maximum Class Size (online): N.A.

B. Objectives of the Course:

Upon completion of this course the student will be able to:

1) Describe each of the different programming paradigms.
2) Discuss computer language syntax, semantics and methods of syntax definition.
3) Demonstrate an understanding of procedure activations and parameter-passing.
4) Discuss the topic of concurrent programming.
5) Discuss the topic of exception handling.

C. Catalog Description:

Students will study the four categories of programming languages: imperative, object-oriented, functional, and logic. An in-depth discussion of the imperative languages will be followed by discussions of the other three paradigms. Students will be required to investigate at least one language. Prerequisite: CSC 328 Data Structures with C- or better. Three credits.

D. Outline of the Course:

1) Programming Paradigms
   a. Imperative
   b. Object-Oriented
   c. Functional
   d. Logic

2) Language Design Syntax

3) Character set, vocabulary syntactic structure

4) Syntax diagrams and semantics

5) Data types, binding, operators and coercion

6) Storage allocation and control structures

7) Procedures and parameters

8) Exception handlers

9) Parallelism in hardware and Concurrent Programming

10) Special programming projects (different paradigms)
E. Teaching Methodology:
   1) Traditional Classroom Methodology:
      This course will be taught using the lecture/discussion method and cooperative group
      method during appropriate sections of the course.
   2) Online Methodology:
      This course will not be taught online.

F. Text
   Sebesta. Concepts of Programming Languages

G. Assessment Activities:
   1) Traditional Classroom Assessment
      The final grade will be determined as a percentage from the following evaluation methods
      with varying weights at the discretion of the instructor:
      a. Examinations
      b. Quizzes
      c. Assignments
      d. Programs
      e. Attendance
      f. Performance
   2) Online Assessment
      No online assessments will be given.

H. Accommodations for Students with Disabilities:

   Accommodations for Students with Disabilities

   Students with disabilities:
   • Reserve the right to decide when to self-identify and when to request accommodations.
   • Will register with the Office for Students with Disabilities (OSD) each semester to receive
     accommodations.
   • Might be required to communicate with faculty for accommodations, which specifically involve the
     faculty.
   • Will present the OSD Accommodation Approval Notice to faculty when requesting
     accommodations that involve the faculty.

   Requests for approval for reasonable accommodations should be directed to the Office for Students with
   Disabilities (OSD). Approved accommodations will be recorded on the OSD Accommodation Approval
   notice and provided to the student. Students are expected to adhere to OSD procedures for self-identifying,
   providing documentation and requesting accommodations in a timely manner.

   Contact Information:
   • Location: Azorsky Hall – Room 105
   • Phone: (724) 938-5781
   • Fax: (724) 938-4599
   • Email: osdmail@calu.edu
   • Web Site: http://www.calu.edu/current-students/studentservices/disability/index.htm