Syllabus

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Course Number

SER 221

Course Title

Programming Languages and Their Execution Environments

Credits

3

Prerequisites

- CST 200 or SER 102

Catalog Description

Introduces the fundamental programming language concepts of data, type, control, abstraction, and structure; software development and execution environments; programming language paradigms.

Course Overview

This course acquaints the student with different classes of programming languages, criteria for language selection in various application areas, and the fundamentals of language design. Formal notations for language definition will be introduced. Run time support for each class of language will be examined. Students will gain exposure to the unique features of C++ object oriented design and general features of object oriented languages In addition to traditional

- Explain design and implementation considerations for data types, expressions, control structures, and subprograms in modern programming languages
- Compare top-down and bottom-up methodologies for problem solving using features of imperative and object-oriented languages
- Explain design and implementation considerations for scope, binding, abstract data types, objects, and exception handling in modern programming languages
- Design and implement solutions to problems using imperative features of C++
- Design and implement solutions to problems using object-oriented features of C++
- Design and implement solutions to problems using functional and declarative features of ML/Prolog

Course Topics, Schedule & Grading

Activities used for instruction and assessment of learning include: discussion/presentations; textbook and supplemental readings; and individual programming activities/assignments.

Week	Topic(s)	Activities/Assi
		(Assignments are due by 11:5
1	Object Oriented Programming - C++ Basics, Arrays & Loops Functions	1. Review course material 2. Participate in Discussion Board 3. Assignment 1
2	Structures & Classes Constructors & other tools Operator Overloading	1. Review course material 2. Participate in Discussion Board 3. Assignment 2
3	Inheritance Pointers	1. Review course material 2. Participate in Discussion Board

		3. Assignment 4
		4. Mid-term exam
5	File I/O Exception Handling	1. Review course material 2. Participate in Discussion Board 3. Assignment 5
6	Declarative Programming - Logic Programming PROLOG	1. Review course material 2. Participate in Discussion Board 3. Assignment 6
FINAL WEEK	Declarative Programming - Functional Programming Review of Final exam	1. Review course material 2. Participate in Discussion Board 3. Final Exam

Grading

Activity	Percentage
Assignments	50%
Midterm	20%
Final Exam	30%

Grade	Percentage	Points Range
A	90 – 100%	90 – 100

Grading Procedure

Grades reflect your performance on assignments and adherence to deadlines. Graded assignments will be available within 48 hours of the due date via the Gradebook.

Communicating With the Instructor

This course uses a discussion board called "Hallway Conversations" for general questions about the course. Prior to posting a question, please check the syllabus, announcements, and existing posts. If you do not find an answer, post your question. You are encouraged to respond to the questions of your classmates.

Email questions of a personal nature to your instructor or assigned TA. You can expect a response within 48 hours.

Online Course

This is an online course. There are no face-to-face meetings. You can log into your course via MyASU or https://my.asu.edu.

Email and Internet

ASU email is an official means of communication among students, faculty, and staff. Students are expected to read and act upon email in a timely fashion. Students bear the responsibility of missed messages and should check their ASU-assigned email regularly.

All instructor correspondence will be sent to your ASU email account.

Course Time Commitment

This three-credit course requires approximately 135 hours of work. Please expect to spend around 18 hours each week preparing for and actively participating in this course.

Late or Missed Assignments

Notify the instructor **BEFORE** an assignment is due if an urgent situation arises and the assignment will not be submitted on time. Published assignment due dates (Arizona Mountain Standard time) are firm. Please follow the appropriate University policies to request an accommodation for religious practices or to accommodate a missed assignment due to University-sanctioned activities.

This course adheres to a compressed schedule and may be part of a sequenced program, therefore, there is a limited timeline to drop or add the course. Consult with your advisor and notify your instructor to add or drop this course. If you are considering a withdrawal, review the following ASU policies: Withdrawal from Classes, Medical/Compassionate Withdrawal, and a Grade of Incomplete.

Grade Appeals

Grade disputes must first be addressed by discussing the situation with the instructor. If the dispute is not resolved with the instructor, the student may appeal to the department chair per the University Policy for Student Appeal Procedures on Grades.

Student Conduct and Academic Integrity

Academic honesty is expected of all students in all examinations, papers, laboratory work, academic transactions and records. The possible sanctions include, but are not limited to, appropriate grade penalties, course failure (indicated on the transcript as a grade of E), course failure due to academic dishonesty (indicated on the transcript as a grade of XE), loss of registration privileges, disqualification and dismissal. For more information, see http://provost.asu.edu/academicintegrity. Additionally, required behavior standards are listed in the Student Code of Conduct and Student Disciplinary Procedures, Computer, Internet, and Electronic Communications policy, and outlined by the Office of Student Rights & Responsibilities. Anyone in violation of these policies is subject to sanctions.

Students are entitled to receive instruction free from interference by other members of the class. An instructor may withdraw a student from the course when the student's behavior disrupts the educational process per Instructor Withdrawal of a Student for Disruptive Classroom Behavior.

Appropriate online behavior (also knows as *netiquette*) is defined by the instructor and includes keeping course discussion posts focused on the assigned topics. Students must maintain a cordial atmosphere and use tact in expressing differences of opinion. Inappropriate discussion board posts may be deleted by the instructor.

The Office of Student Rights and Responsibilities accepts incident reports from students, faculty, staff, or other persons who believe that a student or a student organization may have violated the Student Code of Conduct.

Prohibition of Commercial Note Taking Services

In accordance with ACD 304-06 Commercial Note Taking Services, written permission must be secured from the official instructor of the class in order to sell the instructor's oral communication in the form of

evaluation form is available.

Syllabus Disclaimer

The syllabus is a statement of intent and serves as an implicit agreement between the instructor and the student. Every effort will be made to avoid changing the course schedule but the possibility exists that unforeseen events will make syllabus changes necessary. Please remember to check your ASU email and the course site often.

Accessibility Statement

In compliance with the Rehabilitation Act of 1973, Section 504, and the Americans with Disabilities Act as amended (ADAAA) of 2008, professional disability specialists and support staff at the Disability Resource Center (DRC) facilitate a comprehensive range of academic support services and accommodations for qualified students with disabilities.

Qualified students with disabilities may be eligible to receive academic support services and accommodations. Eligibility is based on qualifying disability documentation and assessment of individual need. Students who believe they have a current and essential need for disability accommodations are responsible for requesting accommodations and providing qualifying documentation to the DRC. Every effort is made to provide reasonable accommodations for qualified students with disabilities.

Qualified students who wish to request an accommodation for a disability should contact the DRC by going to https://eoss.asu.edu/drc, calling (480) 965-1234 or emailing DRC@asu.edu. To speak with a specific office, please use the following information:

ASU Online and Downtown Phoenix Campus
University Center Building, Suite 160
602-496-4321 (Voice)

Polytechnic Campus
480-727-1165 (Voice)

West Campus
University Center Building (UCB), Room 130
602-543-8145 (Voice)

Tempe Campus

480-965-1234 (Voice)

Computer Requirements

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This course uses Blackboard to deliver content. It can be accessed through MyASU at http://my.asu.edu or the Blackboard home page at https://myasucourses.asu.edu

To monitor the status of campus networks and services, visit the System Health Portal at http://syshealth.asu.edu/.

To contact the help desk call toll-free at 1-855-278-5080.

Student Success

This is an online course. To be successful:

- check the course daily
- read announcements
- read and respond to course email messages as needed
- complete assignments by the due dates specified
- communicate regularly with your instructor and peers
- create a study and/or assignment schedule to stay on track