

# Louisiana Delta Community College

## Academic Affairs Master Syllabus

**Course Name:** DISCRETE STRUCTURES

**Course Number:** CSCI 226

**Lecture hours:** 3

**Lab Hours:** 0

**Credit Hours:** 3

**Textbook, Author, and Publisher:** To be provided by College Campus

**Instructor Information:** To be provided by College Campus

**Class Location:** To be provided by College Campus

### **Course Description:**

This course introduces logic and mathematics for solving problems required in the theoretical study of Computer Science. It includes sets, functions, formal logic, proof techniques, combinatorics, relations, matrices, Boolean algebra, finite state machines, and combinational and sequential circuits.

**Prerequisites:** Math 110 with a grade of "C" or better

**Co-requisites:** None

### **Learning Outcomes:**

On completion of this course, the student will be able to:

1. Reproduce a discrete structure and a tree;
2. Use the basic ideas and manipulation of sets and functions, including Boolean combination of sets;
3. Recognize the standard propositional logic connectives and the ability to convert logical expressions in to conjunctive and disjunctive normal form;
4. Illustrate universal and existential quantifiers;
5. Recall the concept and standard graphical representations of binary relations, equivalence and order relations, and methods of combining relations;
6. Order the principle of mathematical induction and be able to perform proofs using this principle;
7. Apply the inclusion-exclusion principle using simple counting examples;
8. Repeat the basic concepts of probability and know how to calculate probabilities using simple experiments.

**Assessment Measures:** To be provided by College Campus

**Library Resource Center:**

The Delta Library and Learning Resource Center is committed to providing quality information and learning resources and services, including technology, in supporting the overall mission of Louisiana Delta Community College and its commitment to lifelong learning.

**Special Accommodations:**

Louisiana Delta Community College complies with Section 504 of the Rehabilitation Act, as well as the Americans with Disabilities Act. Students with disabilities who attend the Monroe campus may make a request by contacting the Director of Counseling and Disability Services (See College Directory for contact information.) at the beginning of each semester. Reasonable accommodations will be attempted for students with documented disabilities. If an impairment is identified later in the semester, a non-retroactive accommodation plan will be developed. Students at satellite campuses should contact the Coordinator of Student Affairs at their particular campus.

**Title IX:**

Louisiana Delta Community College is committed to protecting the rights of students, which includes compliance with Title IX requirements. As such, the institution and members of our community will not tolerate the offenses of dating violence, domestic violence, sexual assault, and stalking. Students with Title IX concerns should contact the College's Title IX Coordinator (See College Directory for contact information.) Students are required to complete Sexual Assault Awareness and Prevention Online Training. Access to this online course will be sent out through the Delta email account.

**Student Code of Conduct:**

Louisiana Delta Community College encourages an environment of academic integrity and mutual respect. Students should read and follow both academic and behavioral expectations identified in the Code of Student Conduct that can be found online at [www.ladelta.edu](http://www.ladelta.edu). Students are expected to act with integrity, respect the rights of others, and conduct themselves in a professional manner. The Honor Code prohibits academic misconduct such as cheating, engaging in unauthorized collaboration, and plagiarism. Violations of the Code of Student Conduct may result in disciplinary action as provided in the Code. Incidents are reported through the online Student Conduct system.