



# SCHOOL OF STEM SYLLABUS



**TERM:**

**COURSE CODE:** CSC-113

**COURSE TITLE:** Computer Logic & Discrete Math

**DAY(S) AND TIME(S):**

**LOCATION:**

**INSTRUCTOR:**

**OFFICE HOURS:**

**OFFICE LOCATION:**

**EMAIL:**

**PHONE:**

**COURSE PREREQUISITE:** None

**CREDITS:** 3

**COURSE DESCRIPTION:**

The basics of number systems. Boolean algebra and logic gates lay the foundation for the study of combinational logic and computer science. Combinatorial applications include Karnaugh Map techniques for logic simplification.

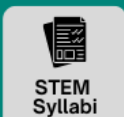
**STUDENT LEARNING OUTCOMES:**

Upon the successful completion of this course, students will be able to

1. Understand and distinguish among numbering systems such as Binary, Decimal, Hexadecimal and Octal.
2. Convert from one numbering system to another and perform some simple arithmetic operations using different numbering systems.
3. Understand the relationship between Boolean algebra and logic gates and Express Boolean function in logical gates.
4. Draw and map the truth tables for logical expressions.
5. Implement and understand the Large Circuit Integration (LCI) using Karnaugh Map reduction techniques.
6. Understand and implement the concepts of sets, graphs, trees, and networks.
7. Understand the concepts of Algorithms and recursion, relations, and functions
8. Understand the concepts of Sequencing and Mathematical induction

## STEM STUDENT HUB

Information & Resources tailored towards students taking any STEM courses



**TEXTBOOK AND SUPPLEMENTAL MATERIALS:**

Discrete Mathematics with Applications

by Susanna S. Epp

**5th Edition***Make sure that you choose this option: this option includes e-textbook with MindTap Assignments*

Online Homework Platform—WebAssign

ISBN-13: 9780357035245

**GRADING POLICY:**

Learning Activities	Points
Discussions	160
Assignments	540
Quizzes	300
<b>Total</b>	<b>1000</b>

**SAMPLE COURSE SCHEDULE:**

Unit, Title	Lecture / Readings	Learning Activities	Grade	Learning Outcome and Number
Unit 1 Sets, Relations, and functions	chapter 1 from your textbook Unit 1 Lecture Epp_DM5e_CH01_02_PowerPoints.pptx Epp_DM5e_CH01_03_PowerPoints.pptx	Introduce Yourself Unit 1 Discussion: Sets WebAssign Assignment	20 points 20 points 78 points	7
Unit 2 The Logic of Compound Statements	chapter 2, sections 2.1, 2.2, 2.4 from your textbook Unit 2 Lecture Epp_DM5e_CH02_01_PowerPoints.pptx Epp_DM5e_CH02_02_PowerPoints.pptx Epp_DM5e_CH02_04_PowerPoints.pptx	Unit 2 Discussion: Logic and proposition WebAssign Assignment	20 points 77 points	3, 4, 5
Unit 3 Numbering Theory and Numeric Systems	Chapter 2 (Section 2.5) & Chapter 4 (Section 4.1) from your textbook Unit 3 Lecture Epp_DM5e_CH02_05_PowerPoints.pptx Epp_DM5e_CH04_01_PowerPoints.pptx	Unit 3 Discussion: Numeric System WebAssign Assignment Unit 3 Exam 1	20 points 77 points 100 points	1, 2, 5
Unit 4 Sequences and Mathematical Induction	Chapter 5 Section: 5.1, 5.2 from your textbook Unit 4 Lecture Epp_DM5e_CH05_01_PowerPoints.pptx Epp_DM5e_CH05_02_PowerPoints.pptx	Unit 4 Discussion: Sequencing WebAssign Assignment	20 points 77 points	8

Unit, Title	Lecture / Readings	Learning Activities	Grade	Learning Outcome and Number
Unit 5 Recursion	Chapter 5 Sections: 5.7, 5.8, 5.9 from your textbook Unit 5 Lecture Epp_DM5e_CH05_07_PowerPoints.pptx Epp_DM5e_CH05_08_PowerPoints.pptx Epp_DM5e_CH05_09_PowerPoints.pptx	Unit 5 Discussion: Recursion WebAssign Assignment Unit 5 Exam 2	320 points 77 points 100 points	6
Unit 6 Trees and Graphs	Chapter 10 Sections: 10.1, 10.2, 10.3 from your textbook Unit 6 Lecture Epp_DM5e_CH10_01_PowerPoints.pptx Epp_DM5e_CH10_02_PowerPoints.pptxEpp_DM5e_CH10_03_PowerPoints.pptx	Unit 6 Discussion: Trees and Graphs WebAssign Assignment	20 points 77 points	7
Unit 7 Analysis of Algorithm Efficiency	Chapter 11 Sections: 11.2, 11.3 from your textbook Unit 7 Lecture Epp_DM5e_CH11_02_PowerPoints.pptx Epp_DM5e_CH11_03_PowerPoints.pptx	Unit 7 Discussion: Analysis of algorithms WebAssign Assignment Unit 7 Exam 3	20 points 77 points 100 points	all

**HCCC POLICIES, STATEMENTS, AND SERVICES:**

<https://www.hccc.edu/administration/academic-affairs/syllabus-addendum.html>





