10/31/2023 DATE

☐ REQUIRED COURSE
☐ ELECTIVE COURSE

MSD   DIVISION
☐ NEW COURSE
☑ REVISION

Lake Land College
Course Information Form

COURSE NUMBER:	MAT-090		TITLE: *(30 Characters Max)*	Math for Computer Applications			

SEM CR HRS:	3	Lecture:		3		Lab:	0		ECH:	3

Course Level:	☐ Gen Ed / IAI ☑ Career/Technical	Clinical Practicum:	0	Work-based Learning	0	WBL ECH:	PER CONTRACT
	☐ Baccalaureate /Non-IAI ☐ Dev Ed/ Not in Degree Audit						

COURSE PCS #	12-270301	IAI Code		Contact Hours (Minutes Per Week)		
Repeatable (Y/N):	N	Pass/Fail (Y/N):	N	Variable Credit (Y/N):	N	Min:	Max:	16 Wks	150	8 Wks	300

Prerequisites:	Placement by assessment
Catalog Description: (40 Word Limit)	Covers mathematical concepts used in the computer and business field. Topics include algebra; addition, subtraction, multiplication, division of decimals and fractions; hexadecimal, binary and octal number systems. Problem solving techniques will be used to solve business-related narrative problems.

	List the Major Course Segments (Units)	Contact Lecture Hours	Contact Lab Hours	Clinical Practicum	Work-based Learning
1	Algebra	20			
2	Add, Subtract, Multiply, Divide Decimals and Fractions	10			
3	Number systems (Hexadecimal, Binary and Octal)	8			
4	Narrative Problems	7			
	TOTAL	45	0	0	0

EVALUATION

QUIZZES ☑	EXAMS ☑	ORAL PRES ☐	PAPERS ☐
LAB WORK ☐	PROJECTS ☐	COMP FINAL ☑	OTHER ☐

COURSE MATERIALS

TITLE:	Elementary & Intermediate Algebra Graphs & Models	
AUTHOR:	Bittinger – Ellenborgen – Johnson	
PUBLISHER:	Pearson – Addison/Wesley	
VOLUME/EDITION/URL:	4th	
COPYRIGHT DATE:		

MAJOR COURSE SEGMENT	HOURS	LEARNING OUTCOMES
The Real Number System		*The student will be able to:*
Introduction to Sets and Real Numbers Operation, Properties and Applications of Real numbers Rational Numbers and Decimals and Fractions Irrational Numbers and Decimals Applications of Decimals and Percents	2 3 2 3 3	At the end of this segment, each student will be able to recognize various number systems and correctly perform operations with them. Students will also be able to apply properties of real numbers in narrative problems related to typical business situations.
Algebra		
Linear Equations Application of Linear Equations Ratio, Proportion, and Variation Linear Inequalities Properties of Exponents and Scientific Notation Polynomials and Factoring Quadratic Equations and Applications	5 4 2 2 4 4 3	At the end of this segment students will be able to solve basic algebraic equations and inequalities. Students will be also able to symbolically represent a business-related narrative problem using basic algebra, and then correctly solve the problem.
Other Number Bases		
Operations Using the Binary System Operations Using the Hexadecimal System Operations Using the Octal System Converting Between Bases	2 2 2 2	At the conclusion of this segment students will be able to perform simple mathematical operations and conversions using the binary, hexadecimal, and octal bases used in computer applications.
total	45	
	45	

COURSE OUTCOMES*	At the successful completion of this course, students will be able to:
•Number Systems - Recognize various number systems and correctly perform operations with them.	
•Properties of Real Numbers - Apply properties of real numbers in narrative problems related to business situations.	
•Solve Algebraic Equations - Solve basic algebraic equations and inequalities.	
•Solve Business Problems - Solve a business-related narrative problem using basic algebra.	
•Conversions - Perform simple conversions between decimal, binary, hexadecimal and octal bases.	

Course Outcomes will be used in the Assessment Software for Outcomes Assessment. Limit to 3 - 5.