CLS 107 – COLLEGE ALGEBRA

Number of Credit Hours:	☑ 3 credits	❑ 4 credits	
Number of Lecture Hours per Week :	❑ 1 hour	❑ 2 hours	☑ 3 hours
Number of Lab Hours per Week:	☑ none	❑ 2 hours	❑ 3 hours
Number of Tutorial Hours per Week:	☑ none	❑ 1 hour	❑ 2 hours

Catalog Description: This course examines fundamentals of algebra and its applications to the real-world situations, polynomials, rational expressions, complex numbers, systems of linear equations, elementary matrices, and their applications.

Prerequisites: ELU 106

Prerequisites by Topics: Fluency in English language – comprehension, reading and writing.

Text book*:*

- College Algebra, Larson/Hostetler, Cengage Learning, Recent Edition

References:

- College Algebra, Aufmann/Barker/Nation, Cengage Learning, Recent Edition

Assessment Plan for the Course:

Midterm Exams 2x	40 %
Quizzes	10 %
Assignments	NA
Home works	10 %
Project/Report/ Presentations	NA
Lab	NA
Final Exam	40 %
Other assessments	
Total	**100 %**

Major Topics Covered in the Course:

Unit	Topic	No of teaching hours
1.	Review of basic mathematical terms and techniques	3
2.	Equations – linear, quadratic, involving absolute value	6
3.	Inequalities– linear, quadratic, involving absolute value	6
4.	Functions and their graphs.	3

5.	Polynomial functions.	3
6.	Rational functions	3
7.	Exponential and logarithmic functions	3
8.	Systems of equations.	6
9.	Matrices and determinants	6
10.	Complex numbers	3

Course Learning Outcomes:

Upon completion of the course, students will be able to:

C1 Apply basic techniques for simplification of algebraic expressions, including the expressions with complex values
C2 Solve linear and quadratic equations and inequalities
C3 Comprehend basic properties of elementary functions and interpret their behavior
C4 Apply different techniques to solve systems of linear equations
C5 Express simple real life situations in terms of linear and quadratic equations and inequalities and their systems and compute their solutions

Relationship between Course Learning Outcomes and Student Outcomes:

Course Learning Outcomes	Unit of the syllabus	Possible artifacts	Level	Student Outcomes
C1	Unit 5,6,7,10	Final Exam	L	(1)
C2	Unit 2,3	Midterm 1	L	(1)
C3	Unit 4,5,6,7	Midterm2	L	(1)
C4	Unit 8,9	Final Exam	L	(1)
C5	Unit 2,3,8	Midterm 1	L	(1)

- Level of emphasis for an outcome is determined based on the weight as follows:
  - A CLO is ranked Low (L), if the CLO covers less than 10 % of course syllabus
  - A CLO is ranked Medium (M), if CLO covers 10 – 20 % of course syllabus
  - CLO is ranked High (H), if CLO covers more than 20 % of course syllabus

Estimate Curriculum Category Content (Semester hours)

Area	Core	Advanced	Area	Core	Advanced
Modern Programming Language			Networking and Data Communications		
Data Management			Systems Analysis and Design		
Role of IS in an Organization			Quantitative Analysis	3	
Information Systems Environment			Others (specify *)		

(*) Knowledge domain description

Area	Semester hours
GE	

Prepared by: Dr. Anton Černý
Revised by: ISC Curriculum committee in Oct 2019

ISC STUDENT OUTCOMES:

The program enables students to achieve, by the time of graduation:

1) *An ability to Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions*
2) *An ability to design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.*
3) *An ability to communicate effectively in a variety of professional contexts.*
4) *An ability to recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.*
5) *An ability to function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.*
6) *An ability to support the delivery, use, and management of information systems within an information systems environment.*