DE LA SALLE UNIVERSITY
College of Science
Department of Mathematics

ISMATH1 – *Algebra for BS IS Students*
Prerequisite: *Prerequisite to: ISMATH2*

Instructor:_____ **Contact details:**_____
Consultation Hours:_____ **Class Schedule and Room:**_____

Course Description

This course covers the number system, fundamental concepts and theorems of algebra, algebraic expressions like polynomials, fractions and radicals, solution(s) of linear and quadratic equations and linear inequalities, different methods of solving systems of linear equations and solution to system of linear inequalities.

Learning Outcomes

On completion of this course, the student is expected to present the following learning outcomes in line with the Expected Lasallian Graduate Attributes (ELGA)

ELGA	Learning Outcome
Critical and Creative Thinker Effective Communicator Lifelong Learner Service-Driven Citizen	At the end of the course, the students should be able to understand and explain the basic concepts of algebra.

Final Course Output

As evidence of attaining the above learning outcomes, the student is required to submit the following during the indicated dates of the term.

Learning Outcome	Required Learning Output	Due Date
At the end of the course, the students should be able to understand and explain the basic concepts of algebra.	Students will be required to answer all assigned items in a given practice exercise set covering topics prior to each quiz. But items to be graded will be randomly chosen by the faculty and this will form part of the 10% of the final grade.	On each scheduled quiz date.

Rubric for assessment

The following rubric will be used for grading students' written solutions to faculty chosen items in every required learning output.

CRITERIA	Excellent (4)	Good (3)	Satisfactory (2)	Needs Improvement (1)
Content and Organization (50%)	In-depth and insightful discussion in addition to score performance.	Logical sequencing of information throughout. Sufficient supporting details.	Logical sequencing of information most of the time. Details are given but inadequate to support the topic.	Information presented with little organization. Most of the details are irrelevant.
Knowledge of Topic(30%)	Concepts in Algebra are presented correctly. Mistakes are justified correctly.	A few concepts are incorrectly stated and some mistakes are not correctly justified.	Majority of the mistakes committed are not correctly justified.	No justification given.
Grammar (20%)	No error	Only one or two errors are committed.	Three or four errors are commited.	More than four errors are committed.

Additional Requirements

- Quizzes (at least 3)
- Board work, Recitation, Homework, Seatwork
- Final Examination

Grading System

	FOR EXEMPTED STUDENTS (w/out Final Exam)	FOR STUDENTS with FINAL EXAM	
		with no missed quizzes	*with one missed quiz*
Average of quizzes	90%	60%	50%
Seatwork, Homework, Board Work, Learning Output, Lab exercises	10%	10%	10%
Final exam	-	30 %	40%

Scale:

95-100%	4.0
89-94%	3.5
83-88%	3.0
78-82%	2.5
72-77%	2.0
66-71%	1.5
60-65%	1.0
<60%	0.0

Learning Plan

Learning Outcome	TOPICS	WEEK NO.	Learning Activities
At the end of the course, the students should be able to understand and explain the basic concepts of algebra.	**Review Topics in Algebra** 1.1 The Set of Real Numbers 1.2 Integer Exponents 1.3 Polynomials: Operations and Special Products 1.4 Factoring Polynomials 1.5 Rational Expressions: Fractions and Operations 1.6 Rational Exponents and Radicals 1.7 Properties and Operations on Radicals 1.8 The Set of Complex Numbers	Week 1 – 2 Week 3 - 5	Seatwork Board work Lecture and Discussion Practice Exercises
	Linear and Quadratic Equations 2.1 Equations 2.1.1 Linear Equations 2.1.2 Involving Rational Expressions 2.1.3 Literal Equations 2.2 Applications of Linear Equation 2.2.1 Number Relation 2.2.2 Investment/Finance 2.3 Quadratic Equations in One Variable and Applications 2.4 Other Equations in One Variable	Week 6 - 9	Seatwork Board work Lecture and Discussion Practice Exercises
	Systems of Equations and Matrices 3.1 Systems of Linear Equations in Two Variables 3.2 Systems of Linear Equations in Three Variables 3.3 Properties and Operations on Matrices 3.4 Determinants and Cramer's Rule 3.5 Solutions of Linear Systems by Matrix Inverses 3.6 Solutions to Linear Systems by Gaussian Elimination and Gauss-Jordan Reduction **Linear Inequalities** 4.1 Linear Inequality in One Variable	Week 10 – 12 Week 13	Seatwork Board work Lecture and Discussion Practice Exercises Seatwork Board work Lecture and

	4.2 Linear Inequality in Two Variables 4.3 Systems of Linear Inequalities in 2 Variables		Discussion Practice Exercises
	FINAL EXAMINATION	(2 hrs)	

References

Kauffman, J.E. and Schwitters, K.L. (8th edition 2013*)"Succeeding with College Algebra"*, Cengage Learning Asia Pte Ltd

Barnett, R.A., Ziegler, M.R. and Byleen, K.E. (2008) College *Algebra with Trigonometry*. Boston: McGraw Hill Higher Education.

Bittinger, M.L., Beecher, J.A., Ellenbogen, D.J., and Penna, J.A. (2009) Algebra *and Trigonometry: Graphs and Models (4th Edition)*. Boston: Pearson/Addison Wesley.

Blitzer, R. (2007) Algebra *and Trigonometry (3rd Edition)*. Upper Saddle River, NJ: Pearson/Prentice Hall.

Larson, R. (2009) College *Algebra with Applications for Business and the Life Sciences*. Boston, MA:Houghton Mifflin.

Online Resources

E-Books Directory *Elementary Algebra by Denny Burzynski, Wade Ellis* Accessed September 26, 2012 from: http://www.e-booksdirectory.com/details.php?ebook=2122

Bernard J. Klein Publishing *Totally Free Math* Accessed September 26, 2012 from http://www.totallyfreemath.com/

Class Policies

1. The required minimum number of quizzes for a 3-unit course is 3, and 4 for 4-unit course. No part of the final exam may be considered as one quiz.
2. Cancellation of the lowest quiz is not allowed even if the number of quizzes exceeds the required minimum number of quizzes.
3. As a general policy, no special or make-up tests for missed exams other than the final examination will be given. However, a faculty member may give special exams for
   A. approved absences (where the student concerned officially represented the University at some function or activity).
   B. absences due to serious illness which require hospitalization, death in the family and other reasons which the faculty member deems meritorious.
4. If a student missed two (2) examinations, then he/she will be required to take a make up for the second missed examination.
5. If the student has no valid reason for missing an exam (for example, the student was not prepared to take the exam) then the student receives 0% for the missed quiz.
6. Students who get at least 89% in every quiz are exempted from taking the final examination. Their final grade will be based on the average of their quizzes and other prefinal course requirements. The final grade of exempted students who opt to take the final examination will be based on the prescribed computation of final grades inclusive of a final examination. Students who missed and/or took any special/make-up quiz will not be eligible for exemption.
7. Learning outputs are required and not optional to pass the course.
8. Mobile phones and other forms of communication devices should be on silent mode or turned off during class.
9. Students are expected to be attentive and exhibit the behavior of a mature and responsible individual during class. They are also expected to come to class on time and prepared.
10. Sleeping, bringing in food and drinks, and wearing a cap and sunglasses in class are not allowed.
11. Students who wish to go to the washroom must politely ask permission and, if given such, they should be back in class within 5 minutes. Only one student at a time may be allowed to leave the classroom for this purpose.
12. Students who are absent from the class for more than 5 meetings will get a final grade of 0.0 in the course.
13. Only students who are officially enrolled in the course are allowed to attend the class meetings.

Approved by:

Dr. Arturo Y. Pacificador, Jr.
Chair, Department of Mathematics

April , 2014