



## **ATTACHMENT 5.**

# **T6. COURSE SPECIFICATIONS (CS) Elementary Mathematics MATH1100**



هيئة تقويم التعليم  
Education Evaluation Commission

## Course Specifications

Institution: Dar Al Uloom University	Date: 02 Dec 2019
College/Department : University Preparatory Program/ Humanities	

### A. Course Identification and General Information

1. Course title and code: MATH1100-Elementary Mathematics			
2. Credit hours: 04			
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) UPP			
4. Name of faculty member responsible for the course Mrs. Andleeb Ikhlag			
5. Level/year at which this course is offered: First Year/First Semester			
6. Pre-requisites for this course (if any): Level C English Language courses			
7. Co-requisites for this course (if any): Nothing			
8. Location if not on main campus: Main campus			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="80%"/>
b. blended (traditional and online)	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="20%"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>
Comments:			
MATH100 is taught in classroom but almost 80% of the assessments are prepared online on LMS for the students that includes; Final, Midterm exam, Quizzes and Assignments. 20% of the assessments are on paper. We are using hybrid system in mathematics that is combination of traditional way and with the use of technology. This blend will help students prepare for any international exams like GRE, GMAT, CAT etc.			

## B Objectives

1. What is the main purpose for this course?

This course focuses on the development of students' critical mathematical skills through Problem solving exercises. It aims at teaching basic numeracy skills and familiarizing the students with fundamental concepts of algebra including; quadratics, functions, coordinate geometry and trigonometry. The students will also be introduced to abstract concepts of sets and functions in detail.

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

The course is available in hard form and online. By online I mean it is available on the LMS (learning management system) We conduct few of quizzes and exams online, and some are hand written. This time we have added 4 types of questions in exams;

- Matching
- Multiple choice
- True/False
- Short questions

In future, we are planning to add few more types of questions in exams.

## C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

Students on this course will study: Real number: Integers and rational numbers; Exponents; Radicals, Polynomials; Factoring; Linear and absolute value equations; Quadratic & other types of equations; Inequalities; Two-dimensional coordinate system and graphs; Introduction to functions; Linear functions; Quadratic functions; Properties of graphs; Algebra of functions; Inverse functions, Trigonometric Functions: Angles and their measures and their applications.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
<b>Students on this course will study:</b> <b>Real number: Integers and rational numbers;</b> Introduction to real number properties and their usage, Commutative properties, Associative properties, Distributive properties, Multiplicative and additive identities and inverses, Operations with algebraic expressions.	1,2,3	12

<b>Exponents:</b> Exponential Rules and examples on exponents and	4	4
<b>Radicals:</b> properties of Radicals, rules and examples. <b>Polynomials;</b> Polynomials, types, addition, subtraction, multiplication and division of polynomials. Fractions. : Simplifying Fractions, Multiplying, Dividing and rationalizing Examples on Fractions	5,6	8
<b>Mid Term Exam 20 Grades</b>	7	No classes
<b>Factoring;</b> Factoring Rules, different types of factoring, Examples on Factoring	8	4
<b>Linear and absolute value equations;</b> linear equations, rational and absolute value equations. Lines. Examples on Lines, types of the lines, methods to calculate five different forms of lines, slopes, measurement of slopes, parallel and perpendicular lines. <b>Quadratic &amp; other types of equations;</b> Quadratic equations. terminology, types of equations and solutions. <b>Inequalities:</b> Linear Inequalities. Examples on Linear Inequalities, Absolute Value Inequalities, Properties of absolute value Inequalities. Examples of absolute value Inequalities.	9	4
<b>Two-dimensional coordinate system and graphs;</b> different types of graphs their properties and examples. <b>Introduction to functions;</b> Functions, special functions. Examples on Functions, Examples on graphs. Examples on Special Functions. <b>Linear functions;</b> Properties, examples <b>Quadratic functions;</b> Properties, graphs;	10	4
<b>Algebra of functions;</b> Addition, subtraction, multiplication and division of functions. Domain of functions. <b>Inverse functions;</b> Examples on Inverse Functions. Combinations of functions, Examples on Combination of Functions.	11	4
	12	4
<b>Trigonometric Functions:</b> Trigonometric Functions, Properties of Trigonometric Functions, Examples on Properties of the Trigonometric Functions. <b>Angles and their measures and Applications</b> Furthermore, we will develop an understanding of 5.1 Angles and their Measure 5.2 Trigonometric Functions	13	4
<b>Final Exam will Begin April 2019</b> <b>MATH100 Final Exam : 40 Grades</b>	14	

2. Course components (total contact hours and credits per semester):							
		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	4( 2 lectures 2 hours each)					48( per semester)

	Actual	4( 2 lectures 2 hours each)					48
Credit	Planned	4					04
	Actual	4					04

3. Additional private study/learning hours expected for students per week.

2 hours per day

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

**On the table below are the five NQF Learning Domains, numbered in the left column.**

**First**, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
<b>1.0</b>	<b>Knowledge</b>		
1.1	1.1 Memorize basic mathematical terms and the formulae.	Class room lecture, brain storming, discussion, group study, assessment, individual study	Self-study, class room questions and discussion, question solutions by students individually and in form of groups, assignment and quiz
<b>2.0</b>	<b>Cognitive Skills</b>		
2.1	2.1 Select appropriate mathematical formulae to solve the question.	Class room lecture, brain storming, discussion, group study, assessment, individual study	Self-study, class room questions and discussion, question solutions by students individually and in form of groups, assignment and quiz
<b>3.0</b>	<b>Interpersonal Skills &amp; Responsibility</b>		

3.1	3.1 Demonstrate a good code of conduct showing punctuality in relation to attendance, homework and assignment submission	Class room lecture, brain storming, discussion, group study, assessment, individual study	Self-study, class room questions and discussion, question solutions by students individually and in form of groups, assignment and quiz
<b>4.0</b>	<b>Communication, Information Technology, Numerical</b>		
4.1	4.1 Show ability to state all steps of the solution clearly.	Class room lecture, brain storming, discussion, group study, assessment, individual study	Self-study, class room questions and discussion, question solutions by students individually and in form of groups, assignment and quiz
4.2			
<b>5.0</b>	<b>Psychomotor</b>		

5. Schedule of Assessment Tasks for Students During the Semester			
	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Assignment 1 <i>Closing date/time</i> Sept. 22 <sup>nd</sup> , 2019 @ 12a.m.	4	3
2	Assignment 2 <i>Closing date/time</i> Oct 19 <sup>th</sup> @ 12a.m.	6	3
3	Assignment 3 <i>Submit on or before</i> Nov 2 <sup>nd</sup> -2019 <i>Hand Written</i>	9	3
4	Assignment 4 <i>Closing date/time</i> Nov 23 <sup>rd</sup> @ 12a.m..	11	3
5	Assignment 5 <i>Closing date/time</i> Dec 7 <sup>th</sup> @ 12a.m.	13	3
6	Quiz 1 13 October 2019	7	7.5
7	Quiz 2 (27 <sup>th</sup> Nov 2019) <i>Hand Written</i>	12	7.5
8	Mid Term Exam : 22 October 2019 11:00 AM	7	20
9	Final Term Exam 11 <sup>th</sup> Dec 2019 from 10:30 – 12:30	14	40

## D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

Faculty members have 08 office hours per week and students can contact in case of any problem. If these hours are not suitable for the students, they are given any other time that is suitable for both teacher and the student.

## E Learning Resources

1. List Required Textbooks

Algebra and Trigonometry by Robert Blitzer Ed 4<sup>th</sup>

2. List Essential References Materials (Journals, Reports, etc.)

Any text book related to basic topics of mathematics

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

MathXL.com Pearsonhighered.com

Khanacademy.com

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

CD is available with text book.

## F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

The class is of 30 Students though 50 seats can be placed in class room easily.

2. Technology resources (AV, data show, Smart Board, software, etc.)

Smart Board, Projector, laptop are available in class room

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

White board, markers, duster

## G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

Course evaluation is available on LMS and student have to fill it to know their final grades.

Apart from this meeting between course coordinator and tutors is held thrice during semester to discuss student problems and different steps are taken for improvement of course.

2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department

UPP Arabic department meetings are held to review overall situation of course. Meetings/consultation among the teaching staffs face to face and on phone, continues throughout the semester.

3. Processes for Improvement of Teaching

Consultation with other teachers and experts. New teachers are also advised by experienced teacher to help them improve learning environment in class.

Dr. Abdulrahman Alazman is very helpful and kind to give his time; he helps throughout the semester, and guides all the faculty and coordinator to put best efforts for introducing and equipping all the students with basic knowledge of algebra and equations.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

In case of any need, other faculty member can be invited to check the exam copies.

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

The course material is reviewed after every semester by the faculty members teaching the course. We are thinking to introduce some new types of questions in coming semester IA.

Name of Course Instructor: \_\_\_Mrs. Andleeb Ikhlaq Tahir\_\_\_\_\_

Signature:  Date Specification Completed: \_\_\_Dec 2 ,2019\_\_\_

Program Coordinator: \_\_\_Dr. Abdulatef Mehmes\_\_\_\_\_

Signature: \_\_\_\_\_ Date Received: \_\_\_\_\_