FOUNDATION PROGRAM | MATH UNIT

COURSE SYLLABUS

TERM-1 (2020-2021)

Course Title : **INTERMEDIATE ALGEBRA**

Course Code : **FPM 100 – Pre-Foundation Math**

Teaching Load : **Four (4) hours weekly**

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Recommended Text Book:

1) **Algebra for Cllege Students**: Jerome Kaufmann, Karen L. Schwitter, Thomson Brooks/Cole, year 2007, 10th Edition.

2) **e–text book: Algebra and Trigonometry, 6th Edition,** Margaret L. Lial, John Hornsby, David I. Schneider, Callie Daniels, My lab Math - Pearson.

DU – Vision:

Dhofar University aspires to occupy a recognized position among the institutions of quality higher education.

DU – Mission:

Dhofar University strives to achieve excellence in teaching, research and community service, in an open learning environment conducive to creativity and innovation and to the acquisition of cutting-edge professional knowledge.

DU - Values:

The core values of Dhofar University are:

1. Academic excellence
2. Individual responsibility
3. Continuous improvement
4. Active citizenship
5. Long-Life learning

▫ رؤية البرنامج :

يتطلع البرنامج التأسيسي إلى احتلال مكانة مرموقة بين البرامج التأسيسية في السلطنة من خلال توفير تعليم ذات جودة عالية

▫ رسالة البرنامج :

يسعى البرنامج التأسيسي لتزويد الطلبة بتعليم ذات جودة عالية يستند الى معايير المخرجات التعليمة في بيئة تشجع على التميز و التعلم المستمر.

▫ قيم البرنامج :

- التميز الأكاديمي
- تحمل المسؤولية الفردية
- تحسين القدرات الذاتية باستمرار
- المواطنة الفاعلة
- التعلم المستمر

Math Unit – Mission:

Our mission is to provide students with a learning environment in which they can master the skills and concepts necessary for their success in college level Mathematics.

Learning Objectives:

* Acquiring the knowledge necessary for further study of mathematics at higher levels and for pursuing the study of other curricular subjects.

* Mastering the language of mathematics and using it to solve real-life problems that may face students now or in the future.

* Enhancing students' intellectual abilities and self-confidence and encouraging renovation and innovation by allowing them to uncover relationships and conceive mathematical patterns and models.

* Developing the mathematical sense in students and employing mathematical methods in life and in other subjects.

Learning Outcomes:

At the end of the course, the student will be able to:

- Identify set notations and their subsets and use different set names.
- Apply basic mathematical operations on real numbers.
- Identify properties of the four-basic arithmetic operations and use them to simplify expressions. (commutative, associative, distributive and identity proprieties).
- Define polynomials, degree of a polynomials, and classify polynomials.
- Perform basic mathematical operations on polynomials.
- Factor polynomials using GCF, grouping, 2^{nd} degree polynomials, and difference between two squares rules.
- Reducing rational expressions using factoring methods.
- Adding and subtracting rational expressions.
- Solve first degree equations (involving fractions and radicals) and use it to solve real-life problems.
- Solve Inequalities, draw a graph, and write the interval notation and use it to solve real-life problems

Academic Honesty:

Students are expected to complete all work with the highest standard of honesty and integrity. Plagiarism, forgery, cheating or any form of academic misconduct will not be tolerated. Any of the above may cause a student's final course grade to be lowered significantly or the student may receive a failing grade, depending on the severity of the offence. Plagiarism is the presentation of the work of another as one's own work. (Refer to DU catalogue)

Plagiarism:

Plagiarism is a particular form of cheating and you must avoid it at all costs. Any case of plagiarism will be given zero in that section of assessment.

Class Management:

- Students are required to arrive to all classes on time.
- Use of mobile phone is not allowed during the lecture time. You must, therefore, switch off your mobile phone before you enter the lecture room.

Attendance Regulation:

Level	1st warning Hours of absences	2nd warning Hours of absences	Final warning Hours of absences	Withdrawal
Pre Level and Math 1 & 2	7.15 %	14.2 %	21.43	25.1 %

Students will receive copies of warning letters in their DU email.

Evaluation and Grading:

Exams will be introduced on Moodle.
An Interactive Math Platform (My Lab Math from Pearson) will be integrated with Moodle to be applied within CA.

Quiz-1	Mid Term	Quiz-2	My Math Lab – Pearson	Final Exam	Final Grade
10 %	30 %	10 %	10 %	40 %	100 %

Continuous Assessment (CA) (30%):

My Math Lab – Pearson	**10 %**
Quiz 1	**10 %**
Quiz 2	

Useful Links / Websites:

http://www.wtamu.edu/academic/anns/mps/math/mathlab/int_algebra/index.htm

http://www.purplemath.com/modules/index.htm

http://library.thinkquest.org/20991/alg2/index.html

http://math2.org/math/trig/identities.htm

http://library.thinkquest.org/20991/alg2/trig.html

http://msenux.redwoods.edu/math/courses/math120.php

http://archives.math.utk.edu/topics/algebra.html

Study Plan – Pre-Foundation Math – Topics to be covered during Term 1 2020-2021

Weeks (Dates)	Topics To Be Covered	Remarks
Week 1 (08/09/20 – 10/09/20)	Orientation Week regarding online classes.	PPT presentation & clarification Video (In Arabic)
Week 2 (13/09/20 – 17/09/20)	1.1 Sets & Real numbers 1.2 Basic mathematical Operations on real numbers.	Examples P (14-17) Problems: (1-10), (11, 18), (19-28) P (20). Examples: 1,2,3, 6,7,9. P (24-29). Problems: 5,7, (8-13),15,17,18, (21-24), (25-30). P (29).
Week 3 (20/09/20– 24/09/20)	1.3 Properties of basic arithmetic operations. (Commutative, Associative, Distributive and Identity proprieties). 3.1 Polynomials • Definition • Degree of a polynomials • Sums and Differences	Examples: 1,2,4,5. P (34-35). Problems: (1-10), 17, 19, 21. P (37). Examples: 1, 2,4,5,9. P (125-127). Problems: 1-10, 11,13,15, 17, 21,23,25,27, 57 P (128-129).
Week 4 (27/09/20– 01/10/20)	3.3 Multiplying polynomials	Examples: 1,2,3, 5, 8,9. P (136-138). Problems: 1,3,9,15,17,19, 33, 35 P(142). **Quiz-1 10% (01/10/2020)**
Week 5 (04/10/20– 08/10/20)	3.4 Common Factor 3.4 Factoring by grouping 3.5 Difference of two squares	Examples: 1, 2,3. P (145-146). Problems: 5,7,10,12,15, ,25,30, 33,35. P (150) Examples: 4,5,6,7. P (147). Problems: 43,45,48,53,56,59. P (150+151). Examples: 1, 2,4. P (152-153). Problems: 1,3,5, 11, 13, 16, 27,29,31, 32, 33. P(157).
Week 6 (11/10/20– 15/10/20)	Mid-Term Exams	**Mid-Term Exam 30%**
Week 7 (18/10/20– 22/10/20)	3.6 Factoring trinomials 4.1 Reducing rational expressions. 4.3 Adding and subtracting rational expressions.	Examples: 1,2,3,5. P (159-160). Problems: 1,3,5, 6. 9, 10.P (165). Examples: 5-8. P (186-188). Problems: 9-15, 21-23,27,59-61. P (188-189). Examples: 1, 2, 3, 4, 5, 7, 9, 10 P (195 - 200) Problems: 1,3,5,9, 13, 14, 17, 19, 23, 27 P (201)

Week 8 (25/10/20– 29/10/20)	2.1.a Solving First Degree Equations	2.1.a Examples: (1-7) P (56-59) Problems:1-5,15-20, 27-30, 31-36, 37-44. P (62)
Week 9 (01/11/20– 05/11/20)	2.1.b Use equation to solve simple real-life problems) 2.2 Equations involving Fractional forms.	2.1.b Examples: (8,9) P (60, 61). Problems: (51,52,53,54,63,64) P (62,63). 2.2 Examples: (1-4) P (64-65) Problems:1-5,11-14, 19-23. P.69 **Quiz-2 10% (05/11/2020)**
Week 10 (08/11/20– 12/11/20)	5.5 Equations Involving Radicals 2.5 Inequalities	5.5 Examples (1,2,3) p.271-272 Problems: (1-10), (13-16) P 275. 2.5 Examples (1-7) P (90-94) Problems: 1-5, 17-25, 45-50, 53, 57, 58. P (95)
Week 11 (15/11/20– 19/11/20)	2.6 More on Inequalities and problem solving. **(**Use inequalities to solve simple real-life problems.)	2.6 Examples: (1-3) P (96-97) + Ex 10 P (101). Proplems:1-5. P (103) + Prob. (62,63) P (104).
Week 12 (21/11/20– 24/11/20)	**Final Exam Week**	**Final Exam 40%**
Week 13 (29/11/20– 01/12/20)	**Moderation &Finalizing Grades**	