**FOUNDATION PROGRAM | MATH & IT UNIT**

# COURSE SYLLABUS

**TERM-1 (2020-21)**

**Course Title** : **INTERMEDIATE ALGEBRA**

**Course Code** : **FPML 100 – Foundation Math for Law, Arabic & Social**

**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**

## 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 the Set notations and their subsets, the different set names, and apply operations.
- 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).
- Use measurements and unit conversion (metric units).
- Define polynomial types, apply the basic operations on polynomials, combining like terms.
- Find the equation of lines in standard form.
- Identify, graph the circle, and write the equation of a circle.
- Define angles in radian and degree measures.
- Define basic Trigonometric Functions and solve right triangle using Pythagorean theorem.

## 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 |
|---|---|---|---|---|
| Math for Law, Arabic and social | 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.

| Quiz-1 | Mid Term | Quiz-2 | Assignments | Final Exam | Final Grade |
|---|---|---|---|---|---|
| 10 % | 30 % | 10 % | 10% | 40 % | 100 % |

## Continuous Assessment (CA) (30%):

| | |
|---|---|
| **Portfolio - Assignments** | **10 %** |
| **Quiz 1** | **10 %** |
| **Quiz 2** | **10 %** |

## 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 – Math for Law, Arabic & social –Topics to be covered during Term 1- (2020-2021)

| Weeks (Dates) | Topics to Be Covered | Remarks |
|---|---|---|
| Week 1 (06/09/20 – 10/09/20) | - Introduction to Online Classes | Through Moodle & What App groups. |
| Week 2 (13/09/20 – 17/09/20) | 1.1 Sets & Real numbers<br><br>1.2 Basic mathematical Operations on real numbers. (addition and subtraction) | Examples P (14-17) Problems: (1-10), (11, 18), (19-28) P (20).<br><br>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) | 1.2 Basic mathematical Operations on real numbers. (multiplication and division) | Continue: Examples for 1.2 |
| Week 4 (27/09/20– 01/10/20) | 1.3 Properties of basic arithmetic operations. (Commutative, Associative).<br><br>1.4 Measurement and Unit Conversion (metric Units). | Examples: 1,2,4,5. P (34-35). Problems: (1-10), 17, 19, 21. P (37).<br><br>Examples 13,15 P (44-45) Problems 86, 87, 98 P 47.<br><br>Quiz-1 10% (01/10/2020) |
| Week 5 (04/10/20– 08/10/20) | 3.1 Adding and subtracting polynomials. | 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 6 (11/10/20 – 15/10/20) | **Mid-Term Exam Week** | **Mid-Term Exam 30%** |
| Week 7 (18/10/20– 22/10/20) | **7.1** Graphing Straight Lines Using Intercepts.<br><br>**Revision for Midterm Exam** | Examples (3-7) P (353-355) Problems: (9-16), (29-31), (35-40) P (359) |

| | | |
|---|---|---|
| Week 8 (25/10/20– 29/10/20) | **7.3** Finding distance and Slope of a line.<br><br>**7.4** Determining the Equation of a Line | Examples (1-3), 5. P (365-369)<br>Problems: 1-12, 17-28 P (372, 373)<br><br>Examples (8, 9, 10) P (380-382)<br>Problems: (1-5), (15-20), (37-46). P (383) |
| Week 9 (01/11/20– 05/11/20) | **13.1 Circles.** (Graphing and finding equation of circle) | Examples (1-3) P (697) and Ex 6 P 699.<br>Problems: (1-8), (15-20), P (701) and Problem 35,38. P (701-702)<br>**Quiz-2 10% (05/11/2020)** |
| Week 10 (08/11/20– 12/11/20) | 1 Define angles using radian measure and convert between radian and degree measure. | **Supplementary Material** |
| Week 11 (15/11/20– 19/11/20) | 2 Solve a right-angle triangle using Pythagorean theorem. | **Supplementary Material** |
| Week 12 (21/11/20– 24/11/20) | **Final Exam Week** | **Final Exam 30 %** |
| Week 13 (29/11/20– 01/12/20) | **Moderation &Finalizing Grades** | |