(Vision for the Future)

CENTRE FOR PREPARATORY STUDIES (CPS)

(Math Section)

Course Syllabus

FPM102B - Foundation Program Math Level 2 Applied

A) University Vision, Mission and Values

Vision

Dhofar University aspires to occupy a distinct position among the leading institutions of higher education in the Arab Region.

Mission

To provide quality teaching and learning, conduct research in an inspiring environment conducive to creativity and innovation, and engage with the community.

Core Values

1) **Excellence** - Our commitment to excellence drives us to do better consistently.
2) **Integrity** - We believe in honesty and coherence between our words and actions.
3) **Responsibility** - We accept full responsibility for our actions at all the times.
4) **Commitment** - We are committed to give our best and deliver what we promise.
5) **Transparency** - For us, transparency is the foundation of trust.
6) **Adaptability** - We believe adaptability is the key to success in an ever-changing environment.

B) CPS Vision, Mission and Values

Vision

The Centre for Preparatory Studies aspires to become one of the leading Centers to provide foundation and other preparatory courses in the Arab region, equipping students to be more competitive in colleges inside and outside Oman.

Mission

The Centre for Preparatory Studies strives to expose students to rich, engaging curricula using innovative teaching and learning strategies that enable students to tap their learning potential to become autonomous, and long-life learners.

Values

The core values of the Centre for Preparatory Studies are:

1. Excellence
2. Commitment
3. Discipline
4. Responsibility and Accountability
5. Integrity
6. Life-long Learning

C) Course Description

The aim of this course is to prepare students for further study of higher-level mathematics at higher and other non-mathematics-related subjects. The course covers Concept of functions, Exponential and Logarithmic functions, recognizing three types of symmetric functions, basic statistics, and introduction to probability.

D) Course, Instructor and Coordinator Information

Course Information

Course Code	FPM 102B
Course Title	Foundation Program Math Level 2 Applied
Credit Hours	NA [4 Contact Hours per week]
Pre-requisite	FPM 101A
Co-requisite	NA
Course Category	Lecture/Interactive Sessions
Language of Delivery	English

Course Coordinator, Instructors Information and Course Schedule

Section	Coordinator	Level	Day	Time (Hrs.)	Email	Office No.	Office Ext.
Math	Mohammad Mustafa	2 Applied	S-Th	10:00 - 15:00	m_mustafa@du.edu.om	224 A	7570

Instructors and Course Schedule:

Section	Class Room	Days	Time	Instructor Name	Email	Office No.	Office Ext.
1	xxx	2 (Su-Tu)	xx:00- xx-00	xxxx	xxx@du.edu.om	xxx	xxx
2	xxx	2 (Mo-We)	xx:00- xx-00	xxxx	xxx@du.edu.om	xxx	xxx

E) Course Learning Outcomes

Course Learning Outcomes		Assessment Tools
1	Define a function graphically and by set notation, finding the domain of certain type of functions, and evaluating functions.	FA/ Quiz 1 / Summative/ Midterm
2	Graph quadratic functions by finding the vertex.	FA / Quiz 1/ Summative/ Midterm
3	Determine if the graph of equation is symmetric to x-axis, y-axis, and origin	FA / Assignment 1/ Summative/ Midterm
4	Identify exponential functions, draw their graphs, and solve their equations.	FA/ Assignment 1/ Summative/ Midterm
5	Define the logarithmic functions, draw their graphs, and solve their equations.	FA / Quiz 2/ Summative/ Final
6	Use the relationship between exponents and logarithms to solve related problems.	FA /Assignment 2/ Summative/ Final

7	Solve simple real-life problems involving exponential functions.	FA / assignment 2/Summative / Final
8	Identify central tendency measures, mean, median, mode, midrange	Summative/ Final
9	Finding the probability of random experiments.	Summative/ Final
10	Use formulas for permutations and combinations.	Summative/ Final
General Study Skills		
1	Time Management and Students' Responsibility: (OAS –f: Using a variety of study techniques)	FA / Quiz 1 Skill
2	Note Taking: (OAS a: Recall and define main concepts - OAS e: Adopt a note-taking strategy)	FA / Quiz 2 Skill
3	Research: (OAS – h: Find specific information using internet search engines and electronic resources – OAC – i: Cite a source in accordance with academic conventions).	FA / Quiz 3 Skill

F) Program Learning Outcomes (PLOs): Refer to Scope and Sequence Document

1	Identify and understand the basic concepts and operations of algebraic mathematics.
2	Solve and sketch equations, inequalities and relations.
3	Recognize and understand the basic concepts of stats and probability.
4	Demonstrate an understanding of the definition of a function and graph some types of functions.
5	Solve simple real-life problems on functions.
6	Recognize and use the basic trigonometric concepts, functions and identities.
PLOs covered in the course:	**2,3,4,5 and 6**

G) Graduate Attributes (GAs)

1	Master theoretical knowledge and practical skills in the student's chosen discipline commensurate with program level and objectives
2	Demonstrate capacity for effective communication, critical thinking, creativity and innovation
3	Exhibit honesty, discipline and accountability
4	Practice tolerance, humility, respect for differences and commitment to service
5	Practice life-long learning
GAs covered in the course:	**1, 2, 3, 4, and 5**

H) Sustainable Development Goals (SDGs) Covered in the Course (If Any)

No.	Sustainable Development Goals	Course book/Unit/Lesson/Topic
SDG 4	Quality Education	- Math Worksheets Booklet. - Solve simple real-life problems involving exponential functions - Statistics & Probability.

I) Additional Reading Materials, References and Resources

Textbook	Algebra for College Students: Jerome Kaufmann, Karen L. Schwitter, Thomson Brooks/Cole, 2007, 10th Edition, ISBN 1-285- 19578-7
Reference Books	NA
Handouts	Math Worksheets Booklet – Version 1.
Useful Websites	Kuta Software
Software(s)	NA
Other Resources	PPT, Videos
e-learning Resources	Moodle, MS-Teams.

J) Teaching/ Learning Strategies and Use of Technology.

The lecture would include tutorials; homework; assignments; in-class participation; and short quizzes. Students need to refer to the textbooks and/or internet sites together with the handouts to update their knowledge and cope up with the assignments and other assessments. Regular class attendance is important and will be monitored. Students are expected to develop their skills for at least 4 hours a week.

K) Research Teaching Nexus

Not Applicable for CPS students.

L) Weekly Course Content Outline

Teaching Week	Dates	Topics/Activities to be Covered
Week - 1		Registration - Introduction and discussing Course syllabus
Week - 2		Concept of a Function
Week - 3		• Graphing Quadratic function. (Determine the zeros, the maximum or minimum of a quadratic function, and line of symmetry). **Quiz Study Skills 1:** Time Management and Students' Responsibility
Week - 4		• Graphing Nonlinear Equations. (Use the three types of symmetry of an equation to sketch its graph)
Week - 5		• Graphing Exponential Function. • Graphing Exponential Function with base e. **Quiz Study Skill 2:** Note Taking
Week - 6		• Solving Exponential Equations.
Week - 7		Midterm Exams
Week - 8		• Logarithms (Definition, Properties and solving Logarithmic Equation).
Week - 9		• Understand the inverse relationship between exponents and logarithms. • Use the relationship between exponents and logarithms to solve related problems.

Week - 10	09 Feb - 13 Feb 2025	• Solve simple real-life problems involving exponential functions. (Compare simple and compound interest and relate compound interest to exponential growth). • Statistics 1. Inferential Statistics, Summarize data into tables and simple graphs (bar charts, histogram, and pie chart)., 2. Introduction to Descriptive statistics, mean, median, mode, and midrange. **Quiz Study Skill 3:** Research Skills
Week - 11	16 Feb - 20 Feb 2025	• Probability - Introduction to Probability, compute the probability of simple events using tree diagrams. • Use formulas for permutations and combinations.
Week - 12	23 Feb - 27 Feb 2025	Final Exams

M) Assessment Methods and Schedule

Assessment Tools	Grade Proportion	Week/Dates
Study skills quiz 1	1 %	3rd Week
Quiz 1	10%	4th Week
Study skills quiz 2	1 %	5th Week
Assignment 1	3%	
Midterm Exam	30%	7th Week
Quiz 2	10%	9th Week
Study skills quiz 3	2 %	10th Week
Assignment 2	3%	11th Week
Final Exam	40%	12th Week
Course Work Total	**100%**	
Course Work	**50 %**	
Exit Exam	**%0 %**	
Cumulative Total	**100%**	
Minimum Passing Marks	**50%**	

N) Important Information for Students

1) University Academic Integrity Policy

The university requires its students to adhere to the academic integrity policy and avoid indulgences in the acts of cheating, collusion or plagiarism during examinations or continuous assessment. Any act of academic misconduct will invite sanctions as per DU policy.

(Please refer to DU Student Handbook and Academic Integrity Policy for detailed guidelines.)

2) Class Attendance Rules

Attendance of all classes and course-related activities is obligatory. The maximum absences allowed for a student is 25% of the total number of classes on a particular course. Before reaching the withdrawal stage,

LOGSIS warns the students by way of three warnings sent to their DU email account by DAR. This email messages to students are a formal communication of the university with its students so students are strongly advised to access their DU email accounts on daily basis to track their absences, along other important things, to respond appropriately when needed.

3) The warnings of absences are as follows:

- **First warning**: this is when a student's absence reaches **07%** of the total number of classes on a particular course.
- **Second warning**: this is when a student's absence reaches **14%** of the total number of classes on a particular course.
- **Final warning:** this is when a student's absences reach **21%** of the total number of classes on a particular course.

If the absence crosses **25%**, the student will be dismissed from the course and a "WA" will be shown in his/her transcript against the dismissed course and dismissal letter will be sent to his DU email account.

4) Withdrawal from course:

A student may get withdrawn from one or more courses after the Drop/Add period until **week – 5** subject to the following conditions:

a) A student who withdraws from a course will receive a grade of "W" for that course

b) A student who is withdrawn from a course for excessive absences (more than 25%) will receive a grade of "WA" for that course.

5) End of Term Evaluation by Students

All students are required to complete "Online Evaluation" of Course, Graduate Attributes and Course Instructor at the end of the term. The specific dates for evaluation shall be announced by the course instructor in the class. It is mandatory for the students to complete this online evaluation, without which their final grades shall not be announced.

6) Missing Exams:

- Make-up exams shall be conducted only once. In the case of final examination, it will be conducted within two weeks of the beginning of the following semester. In case of mid-term examination, it will be conducted within two weeks of the scheduled mid-term exams.
- If you miss a midterm make-up exam, you will be given a percentage of marks that you achieved in the final exam as a midterm score.
- The following excuses are acceptable upon the recommendations from the instructor/coordinator and approval from the CPS council:
  1) Medical certificate from a government hospital or clinic
  2) Family situation, authorized by DU Students' Affairs Department duly supported by documentary evidence or Wali's Office.

O) Additional information, if any

- Nil.