BABCOCK UNIVERSITY

SCHOOL: SCIENCE AND TECHNOLOGY

DEPARTMENT: BASIC SCIENCES

SEMESTER: 1ST SEMESTER   SESSION: 2015/2016

COURSE CODE: MATH 101   TITLE: GENERAL MATHEMATICS I

DAY OF CLASS: Monday & Tuesday.

NO OF UNITS: 3   VENUES FOR CLASS: B006.

TEACHER'S NAME: AYINDE,S.A.

OFFICE ADDRESS: Room C114, SAT Building

TELEPHONE NO: 08056131809.   EMAIL ADDRESS: ayindes@babcock.edu.ng

OUR VISION STATEMENT
A first-class Seventh-day Adventist Institution, building servant leaders for a better world.

OUR MISSION STATEMENT
Building leadership through Christian education; transforming lives, impacting society for positive change.
To achieve our mission, we are committed to:
- Achieving excellence in our teaching, research program, and service delivery
- Imparting quality Christian education
- Instilling Christ-like character to the members of our Community

OUR CORE VALUES
- Excellence   - Our Culture
- Integrity   - Our Promise
- Accountability   - Our Moral
- Servant Leadership   - Our Strength
- Team Spirit   - Our Dignity
- Autonomy and Responsibility - Our Passion
- Adventist Heritage   - Our Commitment

OUR PHILOSOPHY
Babcock University's philosophy is anchored on the harmonious development of the intellectual, physical, social, and spiritual potentials of our students, inspiring stable and noble character needed for effective leadership and service in the society.

CORPORATE IMAGE STATEMENT: A center of excellence for character development and scholarship; a socially responsive, responsible, and accountable institution in matters of commitment and action.

REQUIRED TEXTBOOKS/JOURNALS: Recommended texts for the course include:

1. Adelodun, J.F, Adio, A.K, Ayinde,S.A., et al (2012). "Introduction to University Mathematics" Vol 1. (Algebra and Trigonometry) Oyo State Government Printing Press, Ibadan.
2. Bunday, B.D. and Mulholland, H (1983). "Pure Mathematics for advanced level, Butterworth & co Ltd, London.
3. Thong, H.S et al. (2002). "College Mathematics" Vol 1. Africana-Fep Publishers Ltd, Onitsha.
4. Ugbebor, O.O. and Bassey, U.N (2003). "Mathematics for users" vol. 3, University Mathematics Series, Y- Books, Ibadan.
5. Stroud, K.A. (2001). "Engineering mathematics", Palgrave, Great Britain.
6. David – Osuagwu, M.N et al (2007). "New school Mathematics" Africana First Publishers ltd, Onitsha.

COURSE REQUIREMENTS:

CLASS ATTENDANCE: "Every student is required to attend classes regularly and punctually, unless ill or prevented by some recognized emergency. Students who absent themselves from class for more than three weeks during the semester shall merit an F grade. Authorized leave of absence from campus does not excuse the student from classes, or relieve the student of the required course work' (BU Academic Bulletin 2012-2015 p.13)

PARTICIPATION: Students are to actively engage in topic discussion and sharing of ideas in class.

TARDINESS/CONDUCT OF STUDENTS IN CLASS: Lateness to class is unacceptable; student are not allowed to operate their cell phones, iPods and other electronic mobile gargets during classes, except with the permission of the teacher. Eating and chewing of bubble gums and drinking (water exempted) is also not allowed except with the permission of the teacher. Very importantly, students are required to dress in compliance with the university dress code and wear their identity cards while in class.

SHORT DEVOTIONALS/PRAYER: Spiritual nurture is a part of whole person development, and team spirit is our strength; thus, every student is required to participate in the devotional exercise and prayer in class.

SUBMISSION OF ASSIGNMENT: There are weekly group assignments to be submitted on schedule dates.

LATE ASSIGNMENTS: Assignments could be turned in earlier, but not later than the deadline set by the teacher. Any student found careless in this regard will be penalized in line with the regulations of the Academic Bulletin.

GUIDELINE FOR WRITTEN WORK: Assignments should be typed or hand-written on A4 paper.

ACADEMIC INTEGRITY/HONESTY: "Babcock University has zero tolerance for any form of academic dishonesty. Morally and spiritually, the institution is committed to scholastic integrity. Consequently, both students and staff are to maintain high, ethical Christian levels of honesty.
Transparent honest behavior is expected of every student in all spheres of life. Academic dishonesty include such things as plagiarism, unauthorized use of notes or textbooks on quizzes and examinations, copying or spying the test or paper of another student (formal or take-home), talking to another student during examinations. Academic matter would automatically result in a failing grade for the examination, and suspension, or outright dismissal from the university. Academic dishonesty issues are referred to SPEAM (Senate Panel on Examination and Academic Misconduct) who investigates and makes

recommendations to Senate. Penalties for Examination and academic misconduct are spelt out in the student's handbook and in other regulations as published from time to time" (BU Academic Bulletin 2012-2015 P.18).

GRIEVANCE PROCEDURE
"Students who believe that their academic rights have been infringed upon or that they have been unjustly treated with respect to their academic program are entitled to affair and impartial consideration of their cases. They should do the following to effect a solution:

1. Present their case to the teacher(s) concerned
2. If necessary, discuss the problem with the Head of Department
3. If agreement is not reached at this level, submit the matter to the School Dean
4. Finally, ask for are view of the case by the Grievance Committee
5. A fee is charged for remarking of scripts. If a student's grievance is upheld after an external examiner has remarked the script, the grade would be credited to the student. The lecturer will be given a letter of reprimand and will be asked to refund the fees to the student. If the student's grievance is not sustained, the student will be given a letter of reprimand and the original grade retained" (BU Academic Bulletin 2012-2015 p.18).

TEACHING/LEARNING METHODOLOGIES:
(a) Direct Instruction.
(b) Guided Inquiry.
(c) Discourse.
(d) Cooperative Learning.
(e) Problem-based Learning.
(f) Visual Representations and Concrete Models.
However integration of faith and BU core values in the learning process is encouraged.

COURSE ASSESSMENT/EVALUATION
Continuous Assessment:

Class Attendance:	5%
Quizzes & Tests:	10%
Assignments:	10%
Mid-Semester Exam:	15%
Final Semester Exam:	60%
TOTAL	**100%**

GRADE SCALE
Currently, the 5-pointgradings system adopted the University Senate translates as follows:

Grades	Marks-Quality	Range Points	Definition
A	8-100	5.00	Superior
B	60-79	4.00	Above Average
C	50-59	3.00	Average
D	45-49	2.00	Below Average
E	40-44	1.00	Pass
F	0-39	0.00	Fail

INCOMPLETE GRADE: An incomplete grade may only be assigned to a student upon request, due to an emergency situation that occurred within that semester, which prevented completion of an/some assignments, quizzes, or examination. Such a student would complete a contract form, obtainable from the Registrar, after agreement with the teacher. The form must be signed by the teacher, the student, the HOD, the dean, the Registrar, and the Senior Vice President (SVP) before contract begins. The original copy of the incomplete form will be sent to the Registrar with copies to the teacher, the student, the HOD, the dean, and the SVP. An incomplete grade (I) reverts to the existing grade if contract is not complete by the end of the following semester (including summer semester, except for examinations), (BU Academic Bulletin 2012-2015 p.20).

STUDENTS WITH DISABILITY
"Babcock University seeks to provide a conducive environment for optimal living and learning experience. While the university is working towards facilities that accommodate persons with disabilities, provisions will be made for students with disabilities under the following conditions. Students with disabilities are to:
a. Report to Student Support Services for assessment, and obtain a clearance/recommendation at the commencement of the semester or as soon as disabling incidence occurs.
b. Show the clearance/recommendations to relevant university officials at the commencement of the semester or as soon as disabling incidence occurs.
c. Maintain ongoing contact with Student Support Services" (BU Academic Bulletin 2012-2015 p.20).

COURSE DESCRIPTION
General Set theory, Subsets; Union, Intersection, Compliments, Venn diagrams. Real numbers, Integers, rational and irrational numbers, Mathematical induction; real sequences and series, theory of quadratic equations. Binomial theorem. Complex numbers. Algebra of complex numbers, the Argand diagram. De Moivre's theorem, nth roots of unity. Circular measure, trigonometric functions of angles of any magnitude, addition and factor formulae.

COURSE OBJECTIVES
By the end of this course, students should be able to:
(i)   Give concise definition of set without any ambiguity.
(ii)   Identify whether any given object belong to or does not belong to the class of set defined.
(iii) List elements of any given set.
(iv)   Apply different methods in specifying a given set.
(v)   Distinguish between different types of special sets.
(vi)   Perform useful applications of set in Mathematics and everyday life.
(vii) Reason quantitatively.
(viii) Classify numbers as Integers, rational, irrational and real numbers.
(ix)   Use mathematical induction to prove statements about the set of positive integers.
(x)   State and Prove De-Moivre's theorem
(xi)   Demonstrate knowledge of all trigonometric and inverse trigonometric functions.
(xii) Determine the trigonometric ratios of special angles, measured in radians or degrees using the unit circle.
(xiii) Derive and use the sum, difference, half and double angle identities.
(xiv) Demonstrate Knowledge of the Binomial theorem and use it to expand Binomial expressions that are raised to positive exponents.

COURSE OUTLINE

Week	Date	Topic	Description
1	Sept. 7	General Set Theory	Definition and Special Sets, Set Relations, Operations on Set.
2	Sept. 14	General Set Theory	Basic axioms of Set Algebra, Venn-Euler Diagrams, Applications.
3	Sept. 21	Number Classification	Natural numbers, Integers, Rational and Irrational numbers and their properties.
4	Sept. 28	Mathematical Induction	Principle of Mathematical Induction, Examples.
5	Oct. 5	Sequences and Series	Sequences, Series, Arithmetic Progression
6	Oct. 12	Sequences and Series	Geometric Progression.
7	Oct. 19	Theory of Quadratic Equations	Roots and Coefficient of Quadratic Equations, Functions of roots of a Quadratic Equation, Quadratic Equation formation.
8	Oct. 26	Binomial Theorem	Binomial theorem and Pascal triangle, Proof of Binomial theorem, Examples.
9	Nov. 2	Complex Numbers	Definition of Complex number and Argand diagram, Complex number Algebra, Polar form of Complex number
10	Nov. 9	Complex Numbers	De Moivre's theorem and its applications, nth root of a complex number, cube root of unity.
11	Nov. 16	Trigonometry	Angles and their measures, Circular measure, Trigonometry Ratio, Trigonometry Identities, Addition formula, Factor formula.

12	Nov. 23	Revision	
13.	Nov. 26	Exam	

GOD BLESS YOU!