Lecturer: **Prof. M. S. Ayodele**

Course: **BIO 204: Cell Biology**

BIO 204: CELL BIOLOGY (2 units)

The course is at present taken by 200L candidates from Biological Sciences and Biochemistry. The candidates are presumed to have had at least, some introductory experience in the study of cells of organisms (plants / animals) especially if they participated in BIO 101 course at 100L. A deeper exposure to the study of cells is anticipated in BIO 204. Of importance is the emphatic understanding of those limited observations that can be made on the cell under light microscope. The detailed ultra structures especially of cell organelles, which can only be observed at higher magnifications provided by Electron Microscope, must be well noted!

There is therefore, the need for each candidate to ensure a personal experience in the observation and drawing of cells and cell components that can be viewed under the common laboratory light microscope usually made available in our laboratory. Also necessary is the observation of the different types of plant and animal cells during the laboratory sessions. **This may possibly be the first opportunity and the only one for some of the candidates to actually see those features they had always memorized from textbooks.** This includes exciting observations of dividing cells in MITOSIS and MEIOSIS from animals and especially plants!

Amplified Course Synopsis for personal study

- History and present trends in Cell Biology
- Types of cells (Theory and Practical class on Plant and Animal cells)
- Cell Organelles – form and functions
- Cell multiplication – Forms of Reproduction at cellular level; cell division
- A brief study of the molecular basis of cell structure and development – macromolecules at cellular level: Nucleic acids, Proteins, carbohydrates and lipids
- Cell growth and Cell differentiation
- The Cell Cycle

Practical BIO 204: Items for observation:

1. Simple and Compound Microscope – observation of parts, usage and maintenance care
2. Plant cells of epidermal peel from waterleaf plant and Onion bulbs
3. Animal cells from individual inside-mouth-wall scrapping and drop of self-blood
4. General observation of different histological prepared slides of cells and tissues (plants and animals). These are abundantly available in the Laboratory

Quizzes: 1 unannounced and 1 short-gun. Attendance and participation in Practical class is a serious condition for success in this course.

Professor M. S. Ayodele

Course Lecturer