



LEAD CITY UNIVERSITY, IBADAN
Faculty of Sciences
Department of Microbiology/Biology

COURSE PARTICULARS

Course code: BIO 211
Course title: Cell Growth and Development
No. of Units: 2
Status: Required

LECTURER DETAILS

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COURSE DESCRIPTION

The course introduce the students to the concept of cell growth and development. Prokaryotic cells are cells that do not have membrane -bound organelles. Eukaryotic cells are characterized by a nuclear envelope that divide the cell into 2 main apartments: the nucleus and the cytoplasm.

COURSE OBJECTIVES

At the end of the course, students should be able to:

- (i) define the cell and explain the functions of the cell organelles;
- (ii) differentiate a prokaryotic cell from the eukaryotic cell with examples ;
- (iii) describe and explain the mitotic and the meiotic cell divisions;
- (iv) describe the light and the dark phases of the photosynthetic process;
- (v) define and explain glycolysis.

ASSESSMENT

Coursework and attendance 40marks

Final Examination 60marks

LECTURE PLAN

Week 1	Introduction; History of cell Biology
Week 2 & 3	The prokaryotic and the eukaryotic cell organizations
Week 4 & 5	The cell organelles and their functions;
Week 6	Mitosis.
Week 7	Meiosis
Week 8	Photosynthetic process (Light phase)
Week 9	Photosynthetic process (Dark phase)
Weeks 10& 11	Respiratory process (Glycolysis)
Week 12	Continuous Assessment tests & Tutorials.

READING LIST

- 1) Biggs, A; Kapicka, C. and Lundgren. L.(1998): Biology: the dynamics of life.
Published by the McGraw-Hill companies.
- 2) Kent, M.(2000): Advanced Biolog} . Published by the Oxford University press.

TUTORIAL QUESTIONS

1. (i) Draw a well labelled diagram (10- 12cm) of a typical procaryotic cell.(b) In tabular form highlight the differences between a procaryotic and an eucaryotic cell .
2. (a) What are cell organelles? (b) Write short notes on the following : (i) Lysosomes; (ii) Mitochondria ; (iii) Cell membrane.
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3. Write extensively on mitosis describing all the phases involved.
4. (a) Define a cell, (ii) Draw a well labelled diagram (10-12cm) of a typical animal cell,

(b) In tabular form, highlight the differences between plant and animal cells.
5. Describe and explain in details the stages involved in the Prophase 1 of Meiosis .
6. Describe the dark phase of the photosynthetic process.
7. What is meant by Glycolysis? Explain.
8. Describe the light phase of the photosynthetic process.
9. Describe the chemical composition of the cell.
10. (a) In tabular form , list the major differences between the following: (i) RNA and DNA; (ii) Mitosis and Meiosis. (b) Draw a well labelled diagram showing the structure of the chloroplast.

