

**DUKE ELLINGTON SCHOOL OF THE ARTS  
HIGH SCHOOL BIOLOGY**

2009 - 2010

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**COURSE DESCRIPTION** - BIOLOGY 1 IS DESIGNED TO DEVELOP AND ENHANCE STUDENTS' COMPREHENSION AND APPRECIATION OF LIFE. STUDENTS APPLY THE APPROPRIATE SCIENCE SKILLS AND LABORATORY TECHNIQUES TO STUDY CONCEPTS RELATED TO THE BIOCHEMICAL NATURE OF LIFE, ITS FORMS AND PROCESS IN A VARIETY OF ECOSYSTEMS. INSTRUCTION FOCUSES ON EVOLUTION, REPRODUCTION AND DEVELOPMENT, BIOTECHNOLOGY AND ECOLOGICAL RELATIONSHIPS IN THE ENVIRONMENT. STUDENTS ARE REQUIRED TO COMPLETE AN INDIVIDUAL OR GROUP PROJECT ON A TOPIC OF INTEREST. INTERACTIVE INSTRUCTIONAL TECHNOLOGY IS USED TO ENHANCE AND SUPPORT LEARNING INCLUDING COMPUTERS, SOFTWARE, PROBeware, TELECOMMUNICATIONS, CD-ROM, DIGITAL PHOTOGRAPHY AND OTHER TOOLS AND TECHNOLOGIES. **CARNEGIE UNIT: 1**

**OBJECTIVES:**

**UPON COMPLETION OF HIGH SCHOOL BIOLOGY, STUDENTS WILL BE ABLE TO:**

- \* DISTINGUISH AMONG THE BRANCHES OF BIOLOGY AND RELATED FIELDS OF SCIENCE
- \* DESCRIBE VARIOUS CHEMICAL REACTIONS THAT OCCUR IN ORGANISMS
- \* IDENTIFY CHARACTERISTICS THAT SEPARATE ORGANISMS INTO CATEGORIES
- \* DESCRIBE THE FUNCTION AND STRUCTURE OF SYSTEMS OF VARIOUS ORGANISMS
- \* DISTINGUISH AMONG TERRESTRIAL AND MARINE BIOMES
- \* APPLY KNOWLEDGE FROM BIOLOGY TO PRACTICAL SITUATIONS
- \* IDENTIFY EQUIPMENT IN SCIENCE RESEARCH AND HOW IT IS USED
- \* DESCRIBE THE CYCLES THAT SUSTAIN LIFE ON EARTH
- \* DESIGN AND CONSTRUCT MODELS OF SCIENCE CONCEPTS
- \* DEVELOP A SCIENCE FAIR PROJECT
- \* INCOOPERATE MULTIMEDIA IN THE SCIENCE CLASS

## **REQUIREMENTS**

- \* PUNCTUALITY AND DAILY ATTENDANCE
- \* ASSIGNMENTS COMPLETED AND TURNED IN ON THE DUE DATE
- \* FOUR BOOK ESSAYS THAT ARE SCIENCE RELATED. (**TYPED AND DOUBLE SPACED**)  
DATES WILL BE GIVEN FOR BOOK ESSAYS
- \* TWO SCIENCE ARTICLE SUMMARY ARE IS DUE EACH MONTH BEGINNING WITH SEPTEMBER AND ENDING IN OF MAY. (**HEADING SINGLE SPACED, BODY DOUBLE SPACED**)

**FORMAT FOR ARTICLE SUMMARIES - HEADING** - UPPER LEFT CORNER OF THE PAPER -SOURCE, TITLE, AUTHOR, DATE, PAGE NUMBER; UPPER RIGHT CORNER - YOUR NAME, SUBJECT, DATE, PERIOD.

- \* PARTICIPATION AND COOPERATION IN CLASS ACTIVITIES - DISCUSSIONS, LABS, FIELD TRIPS, SCIENCE FAIR PROJECTS

**MATERIALS** - SUBJECT NOTEBOOK, LABORATORY NOTEBOOK, PENS - AT LEAST THREE, PENCILS - AT LEAST THREE - MAGIC MARKERS OR COLORED PENCILS, METRIC RULER, CALCULATOR

**TEXT** - ALTON BIGGS ET AL (2004) BIOLOGY – THE DYNAMICS OF LIFE - GLENCOE/MCGRAW-HILL

## **GRADING PERCENTAGES**

EXAMINATIONS - 20%  
QUIZZES - LAB REPORTS -15%  
SPECIAL ASSIGNMENTS -15%  
HOMEWORK - 15%  
CLASSWORK - 5%  
ADVISORY AND FINAL EXAMINATIONS - 25%