

Our Lady of Lourdes High School

COURSE TITLE: Living Environment Introduction Syllabus: Summer 2020

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COURSE DESCRIPTION:

This course introduces the Living Environment. The topics covered will allow students to be prepared for the rigorous curriculum of the Living Environment Course at Our Lady of Lourdes. Students will be introduced to Scientific method, lab report writing, basic lab skills, and Data analysis. The foundational information covered in this course will allow students to be better prepared for rigorous academic expectations of A Lourdes college preparatory science curriculum, and help them in the transition to the Next Generation Science Standards.

COURSE OBJECTIVES: This is a general science course designed to examine aspects of the living world. An effort will be made to survey as much material as possible due to the fact that this is an introduction to biology course for students taking our college preparatory Living Environment course in the fall. Students will be exposed to a wide range of topics from beginning cell biology/biochemistry and genetics, to taxonomy and ecology. Lab time will be spent doing inquiry labs and activities along with using the microscope and Students will be challenged to develop scientific thinking, reading, writing, and numeracy skills. Students will be encouraged to take an active part in the learning process; in fact, in order to be fully successful,

Students will gain knowledge of introductory topics of biology, which include: Experimental design, the basis of the scientific method, Laboratory skills, the writing of lab reports, and data analysis. Students will become familiar with laboratory techniques that will be essential for their science 9 curriculum and subsequent science courses. These topics will help students to make a more seamless transition to the rigorous academic expectations of a Lourdes College Preparatory Science Curriculum.

PRIMARY LEARNING OUTCOMES:

Upon successful completion of this course students will:

- Use scientific inquiry, mathematical analysis and engineering designs, as appropriate, to pose questions, seek answers and develop solutions.
- Access, generate, process and transfer information using appropriate scientific patterns and current technologies.

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- Apply knowledge and skills to design, construct, use and evaluate products and systems to satisfy human and environmental needs.
- Will understand the relationships and common themes that connect science, mathematics and technology.
- Will apply the knowledge and thinking skills of science, mathematics and technology to address real-life problems and make informed decisions.

COURSE POLICIES:

A contract outlining summer course policies and procedures will be provided to the students and parents. All parties must agree to and sign this contract before the course begins

COURSE OUTLINE AND MAPPING:

Week 1:

Topic 1: Introduction to Science

Terms, Vocabulary, Key Ideas

Topic 2: The Scientific Method

Background, Origins, Skills

Topic 3: Experimental Design

Writing a Hypothesis, Planning the set up, Choosing Variables

Week 2:

Topic 4: Lab skills- Lab procedures

Safety, Microscope, Pipetting, Chromatography, Electrophoresis, Diffusion

Week 3:

Topic 5: Lab Skills- Data analysis

Graphing, Google Sheets, Data Tables

Week 4:

Topic 6: Writing a Lab report

Grammar, Style, Set up