

2008-2009 BIOLOGY SYLLABUS
School St. Pius X Catholic High School

DEPARTMENT: SCIENCE
COURSE: ANATOMY AND PHYSIOLOGY
Course #: 26.16
TEACHER: MRS. N. JOHANNESON
COURSE DURATION: TWO SEMESTERS

GENERAL OBJECTIVES

- | This course is designed to introduce students to the structural organization and functions of the human body, as a guide to understanding their own.
- | Students will continue to use many aspects of their training in the scientific method in this course.
- | They will gain insight into aspects of abnormal structures and functions of the body that will enable them to interpret clinical situations.
- | The course is also designed for students who plan a career in any one of the medical or allied health fields.
- | A considerable amount of studying is involved, including, reading, memorization of terms and learning the language anatomy.

- | Students will also review the basic concepts in lab. Safety, chemistry, and cell biology.

A minimum of 30 minutes daily is recommended for home study each night.

- **Students will study how to conduct scientific research from both the practical and written perspective.**
- **Grades will be available on line for parents and students to access , for easier management of their progress**

OUTLINE OF TOPICS - FIRST SEMESTER

1. INTRODUCTION:

Introduce the syllabus and other pertinent handouts.
Review, Lab safety, writing a lab report, scientific method.

2 CHAPTER 1 Organization of the body

Levels of organization
Homeostasis
Anatomical and directional terms
Body cavities

CHAPTER 2 Introductory Chemistry

Atoms, Elements, Ions, Molecules, Compounds, and Chemical bonds.
Chemical Reactions.
Chemical Compounds and the Life Processes(Inorganic and Organic

4. **CHAPTER 3 Cells**
 - Generalized structures**
 - The Plasma membrane and Transport across the membrane.**
 - The cytoplasm and the organelles**
 - The nucleus and Protein Synthesis**
 - The cell cycle and nuclear division(mitosis).**

5. **CHAPTER 4 Tissues**
 - Types of tissues and their general structure and function.**
 - Specific features and functions of epithelial,Connective, Muscle, and Nervous tissues**
 - Glandular epithelium.**
 - Mucous membranes.**
 - Tissue repair**

6. **CHAPTER 5 The integumentary system**
 - The skin-Structure and function.**
 - The accessory structures of the skin.**
 - Common disorders**

7. **CHAPTER 6. The Skeletal system**
 - The skeletal system**
 - Types of bones**
 - Functions and structure of bones.**
 - Bone formation.**
 - Divisions of the skeletal system.**
 - Common disorders.**

8. **CHAPTER 7. JOINTS**
 - Types of joints**
 - Structure of joints.**
 - Types of movement at joints.**

9. **CHAPTER 8 THE MUSCULAR SYSTEM**
 - Types of muscles**
 - Structure and function of muscles**
 - How muscles work**

First semester final examination will include chapters1-8 or whatever chapters are covered between August and December.

SECOND SEMESTER

10. CHAPTERS 9,10,11,12 THE NERVOUS SYSTEM

**Over view of the nervous systematic
Structure and function of the nervous system.
The central nervous system.
The autonomic nervous system.
The senses.**

11. CHAPTER 13 THE ENDOCRINE SYSTEM

**Hormone action
Chemistry of hormones
Structure and function of endocrine glands**

12. CHAPTERS 14,15,and16 THE CARDIOVASCULAR SYSTEM

**Structure and function of blood
Structure and function of the heart.
Blood vessels and circulation.**

13. CHAPTER 17 THE LYMPHATIC SYSTEM

**Structure and function of the lymphatic system.
Immunity**

14. CHAPTER 18 THE RESPIRATORY SYSTEM

**Organs of the respiratory system
Pulmonary ventilation
Control of respiration
Respiratory gases-exchange and transport**

15. CHAPTER 19 THE DIGESTIVE SYSTEM

**Overview of the digestive system
Structure and function of the major organs and associated organs.**

16. CHAPTER 21 THE URINARY SYSTEM

Structure of function of the urinary system.

17. CHAPTER 23 THE REPRODUCTIVE SYSTEM.

Structure and function of the male and female reproductive systems
Omit The section on birth control

! NOTE TO PARENTS AND STUDENTS WITH REGARDS TO CH. 23

The information contained in the "section on Birth control" presents materials that do not represent the Catholic views on these subjects or the views of the Science Department. St. Pius recognizes and supports the primary role of parents in providing guidance and information for their children on these issues.

18. CHAPTER 24. DEVELOPMENT AND INHERITANCE
Embryonic and fetal development
Inheritance

*** Please note that we will not be able to cover all of this material.**
The syllabus is flexible and the order of study may be changed.

The second semester will not be cumulative, it will be based on the last chapter studied.
Students who maintain an A/A+(90-100) grade average throughout the two semesters of the course will be considered for exemption from the finals

COURSE MATERIALS

Textbook: Introduction to the Human Body-the essentials of Anatomy and Physiology(7th edition) by Tortora & Derrickson

A three-ringed binder, (preferably black) and a good supply of lined and unlined paper.
Pens and Pencils (# 2), some colored.
Jump drive for saving computer generated materials.

GRADING FORMAT

Tests: 40% (Each semester students will do a project which will be assessed as a test).

Laboratory Reports: 20%

Quizzes, class work, and homework: 15%

Final Exam: 25%

ACADEMIC EXPECTATIONS

- 1) Students are expected to bring their notebooks, writing implements and textbook to class each day.
- 2) Students are expected to read the chapters assigned before each class.
- 3) Students are expected to write notes during lecture / discussion classes.
- 4) All written assignments must be written in **ink**, correct English is expected, headings must be underlined neatly, charts and data tables should be constructed with a ruler.
- 5) All biological drawings **must be done with a #2 pencil** and the guide lines given by the Teacher must be followed. Drawings must be on unlined paper
- 6). Assignments for grading must be submitted on the dates given by the Teacher.
No late assignments will be accepted.

Students who have been absent (due to illness or for an excused activity) must make it their responsibility to find out what work was missed and make up any assignments within three

days of their return to school. **Special considerations will be given to students with long term illness.**

Any student missing a major test due to late arrival, early dismissal or medical appointments must see the Teacher during that school day so that arrangements can be made to take the test during a free period, study hall or after school. Failure to do so will result in a grade of zero.

7) A test will be given at the end of each chapter or a couple of chapters, approximately every ten to fifteen days. Announced and unannounced quizzes will be given frequently (a **minimum of one each week**)

Students will be given notice of an upcoming test at least 4 days in advance

8) **Homework** will be assigned daily and will include any one of the following or a combination of reading the text, completing study guides, answering review questions, preparing for quizzes and tests, and writing up a pre-lab and lab reports.

FAILURE TO DO AND SUBMIT ALL ASSIGNMENTS ON TIME WILL RESULT IN THE STUDENT OBTAINING A GRADE OF ZERO

9) Students are expected to keep a neat notebook with good notes, copies of all hand-outs, lab. reports, and graded tests and quizzes until the course has been completed.

10) Students are expected to keep an up to date grade log.

11) Students are expected to dissect the following: Rat, sheep's brain, and heart, cow's eye, and pig's kidney (as required by the course unit).

IMPORTANT NOTE! If you anticipate any personal problems with regard to dissecting, please discuss it with your teacher

12). A copy of monthly activities (class-work and homework) can be accessed from the school's web-site

BEHAVIORAL EXPECTATIONS (based on the Science Dept. guidelines).

Safety and care of Equipment

1. Students **must not** touch any science equipment without authorization from the teacher.
2. Students **must follow** all written safety regulations at all times.
3. Laboratory procedures **must be followed exactly**. Students must not use equipment in any other manner.
4. Teacher guidelines for using and caring for the microscopes must be followed

Classroom Procedures

1. Students are expected to **arrive on time** for class, **and be in their assigned seats** when the second bell rings. They **must also have the necessary materials ready to begin class**.
2. Students are expected to **remain in their seats and be attentive during class time. (except during lab activities when they will move about)**
3. Students are expected to raise their hand and wait to be called upon before speaking.
4. Students are expected to respect and be polite to each other at all times.

CONSEQUENCES OF VIOLATION

1. Violators of safety and equipment regulations will be referred to the Discipline Office and will be given a detention.
2. Violators of the rules of classroom procedures will be warned that their behavior interferes with the progress of the class. Continued disregard of the rules will result in a referral to the discipline office.
3. Exceptionally disruptive or discourteous behavior will result in work details or a discipline Office referral without warning.
4. Laboratory work is an interesting and exciting part of a science course and students who follow the regulations will be allowed to participate and their efforts will be recognized. Those who fail to follow the regulations will not be allowed to participate.
5. Assignments written in pencil or done without care or thought will be returned to students ungraded. When the work is rewritten in a satisfactory manner it will be graded. No points will be subtracted if the work is resubmitted in a maximum time of 3 days.

To the parents/guardian and student:

These guidelines are proposed to provide an efficient and effective learning environment, in which students will excel.

Please, take the time to **read it carefully**, and then indicate your understanding and willingness to abide by them or support your child in keeping to them by signing in the appropriate spaces below.

Thank you,
N E Johanneson

Parent's Signature:- _____

Student's Signature:- _____

Date:- _____

Please return the signed copy to school by August 18, 2008.

This information must be kept in the front of the student's binder for quick reference throughout the two semesters.

