

**SYLLABUS**  
**BIO 115 – HUMAN BIOLOGY**  
**THREE RIVERS COMMUNITY COLLEGE**  
**NORWICH, CONNECTICUT 06360**

Rosemary Gentile, Adjunct Instructor

Office: \_\_\_\_\_

Office Telephone Number: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

Office Hours:

Day	Time	
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		

\*\*\*\*\**Special Notice*\*\*\*\*\*

If you have a visible or hidden disability which may require classroom, lab and/or test-taking modifications, please see me as soon as possible. If you have not registered with Chris Scarborough, learning specialist or a counselor in the Student Services Development Center, you must do so early in the semester.

Fall 2010

Course: Human Biology / BIO 115

Credits: 4 hrs. Credit (3hours of lectures and 3hours of lab each week)

Text(s): Biology of Humans; Concepts, Applications, and Issues, Judith Goodennough & Betty McGuire, 3<sup>rd</sup> edition, Pearson/Benjamin Cummings, Publishers

Description of the Course:

A) Catalogue Description: This course is an introduction to the study of the structure and function of the human body. Laboratory procedures ***do not*** involve animal dissection. **Course Design:** to meet the lab science requirement for the General Studies or LAS programs of study. ***This course does not meet the pre-admission requirement for the Nursing Program and does not meet the pre-requisite requirement for BIO 211 & 212 or BIO 235.*** **Prerequisites:** Successful completion of ENG 100 with a C- grade or higher, or placement score indicating eligibility to take English 101.

B) General Course Objectives:

- 1) To aid the student in developing an understanding of the life processes.
- 2) To aid the student in developing and understanding of the normal structures and functions of the various systems of the human body.
- 3) To provide a useful body of knowledge for students majoring in non-science programs.

Class Attendance Policy:

Attendance of all class activities in lecture and laboratory is required. Absences are counted from the first meeting of class. More than four consecutive or more than six accumulative absences could result in a student receiving a "F" grade in this course. An explanation of the cause of all absences should be given to your instructor.

Academic and Classroom Misconduct:

The instructor has primary responsibility for control over classroom and/or laboratory behavior and maintenance of academic integrity, and can request the temporary removal or exclusion from the classroom or laboratory of any student engaged in conduct that violates the general rules and regulations of the institution. Or any student engaged in conduct deemed hazardous in the laboratory. Extended or permanent exclusion from lecture or laboratory activities or further disciplinary action can only be effected through appropriate procedures of the institution.

Plagiarism, cheating on quizzes or tests, or any form of academic dishonesty is strictly prohibited. Students guilty of academic dishonesty directly or indirectly will receive a zero for the exercise or quiz or test and may receive a "F" grade for the course in addition to other possible disciplinary sanctions which maybe imposed through the regular institutional procedures. Any student that believes that he or she has been erroneously accused may appeal the case through the appropriate institutional procedures if their grade was affected.

## Procedure for Dropping the Course:

### \*\*\* College's Withdrawal Policy\*\*\*

Any student who finds it necessary to discontinue this course **MUST** complete a withdrawal form in the Registrar's Office at the time of the withdrawal. If you can not withdraw in person you may call the Registrar's Office and provide them with the appropriate information. Students may withdraw from the course anytime during the first \*14<sup>th</sup> weeks of class, **without** written authorization from the instructor or their academic advisor. ( \* Deadline will be announced. )

***Once you withdraw from class you are no longer eligible to continue attending class and/or take any remaining quizzes or test.*** Students who do not withdraw, but stop attending will be assigned an "F" grade in this course. Verbal withdraws **CANNOT** be accepted.

### Tests:

There will be nine scheduled quizzes (additional pop quizzes may also be given), all quizzes are given during the first ten minutes of class. The lowest two quiz scores will be dropped.

Three-unit test, two labs tests and a comprehensive final exam may also be given. A ten minute oral presentation may also be required. Unit tests are scheduled in advance.

### Grade Determination:

$\frac{1}{2}$  of the semester's average,  $\frac{1}{4}$  of the lab grade,  $\frac{1}{4}$  of the score on the comprehensive final exam will determine the final course grade.

#### EXAMPLE:

$$\begin{array}{rcl} \text{(Semester's Average)} & \frac{1}{2} & (90) = 45 \\ \text{(Lab Grade)} & \frac{1}{4} & (92) = 23 \\ \text{(Final Exam Score)} & \frac{1}{4} & (96) = \underline{24} \\ & & 92 \end{array}$$

The best seven quiz scores will be added together and divided by seven to determine the quiz average. The quiz average and the three unit tests scores will be added together and divided by four to determine the semester's average. The lab grade will be determined by averaging the two lab test scores plus points for laboratory reports. The comprehensive final exam consist of one hundred or more questions for a total possible 100 points.

Grade Scale: There will be NO grading on the normal distribution curve.

100.00 - 93.50	= A
93.49 - 90.00	= A-
89.99 - 87.50	= B+
87.49 - 84.50	= B
84.49 - 79.50	= B-
79.49 - 77.50	= C+
77.49 - 73.50	= C
72.49 - 69.50	= C-
69.49 - 63.50	= D+
63.49 - 59.50	= D
59.49 - 00.00	= F

#### Make-ups:

Any assignment missed can be obtained from the instructor. Lab work cannot be made up. Quizzes, scheduled or pop, cannot be made up for any reason. Unit tests can only be made up by special arrangement with the instructor. Makeup tests will be granted on an individual basis only following a conference with the instructor; where the reason(s) for missing the test must be determined mitigating circumstances beyond the control of the student such as, illness, death in the family, or change in condition of employment. All make-up tests will be scheduled by special arrangements. If two unit tests are missed during the semester and/or if the final exam is missed the student will receive a "F" grade if he or she is failing other parts of the course or an "T" if the student is passing all other parts of the course.

#### Revisions to the Syllabus:

Students are responsible for learning all of the objectives and all of the items in the course outline whether they are discussed in lecture and/or laboratory or not. The instructor reserves the right to revise the objectives, topical outline, or academic schedule contained in this syllabus without notice. However, if the revisions affect scheduled unit tests a 48-hour notice will be given for the new test date.

#### Cellular phones and/or beepers:

*Cellular phones and beepers are only allowed in class or lab if they are turned off or in silent mode. Under no circumstances are phones to be answered in class. When there are extenuating circumstances that require that a student be available by phone or beeper, that student must speak to the instructor prior to class, so that together they can arrive at an agreement.*

**Course Outcomes: BIO 115 – Human Biology**

1. The student will demonstrate knowledge of body position and planes of reference.
2. The student will be able to identify the principal elements that make up the body, give their chemical symbols, and summarize the main functions of each.
3. The student will demonstrate knowledge of the atomic structure and its relationship to the interaction of atoms to form molecules.
4. The student will demonstrate knowledge of ionic, covalent and hydrogen bonds and give examples of each.
5. The student will be able to describe the types of inorganic compounds found in the body.
6. The student will be able to define pH in terms of hydrogen ion concentration and be able to identify any given pH as acid, alkaline, or neutral; describe how pH changes are minimized by buffers.
7. The student will demonstrate knowledge of the organic molecules (carbohydrates, lipids, proteins, nucleic acids), both structurally and functionally.
8. The student will be able to describe enzymatic action, give the principal properties of enzymes, and summarize their chemical make-up.
9. The student will demonstrate knowledge of protein synthesis.
10. The student will be able to describe enzymatic action, give the principal properties of enzymes, and summarize their chemical make-up.
11. The student will demonstrate knowledge of the cell organelles and their function.
12. The student will demonstrate knowledge of the various mechanisms of active and passive transport relative to the plasma membrane.
13. The student will demonstrate knowledge of mitosis and meiosis.
14. The student will demonstrate knowledge of the types of tissues, membranes, and their functions.
15. The student will demonstrate knowledge of the organization of the integument and its various functions.
16. The student will demonstrate knowledge of the relationship of the integument to homeostasis.
17. The student will demonstrate knowledge of bone structure and function.
18. The student will be able to identify the bones and their prominent markings.
19. The student will demonstrate knowledge of the muscle types, histology and functions.
20. The student will demonstrate knowledge of the types of articulations, their structural differences and function.

21. The student will demonstrate knowledge of the mechanisms for supplying energy in muscle tissues.
22. The student will demonstrate knowledge of the muscle names and locations.
23. The student will be able to explain the general function of the nervous system.
24. The student will be able to list the divisions of the nervous system and the composition of each division.
25. The student will be able to describe the general structure and function of a neuron.
26. The student will be able to explain how neurons are classified.
27. The student will be able to name the different types of neurological cells and describe their functions.
28. The student will be able to describe the events that lead to the conduction of a nerve impulse.
29. The student will be able to explain the electrochemical changes associated with synaptic transmission.
30. The student will be able to describe the covering of the brain and spinal cord.
31. The student will be able to describe and explain the structure, organization and function of the spinal cord and its nerves.
32. The student will be able to describe and explain the structure, organization and function of the brain and its nerves.
33. The student will be able to describe and explain the structure and function of the specialized sensory receptors.
34. The student will be able to give the location of the olfactory organs and their primary functions.
35. The student will be able to describe the structure and function of the eye and ear.
36. The student will be able to name and describe the structure, location, in the body and the function of the major endocrine glands in the body and list the hormones they secrete.
37. The student will be able to describe how hormonal secretion is regulated and the effects of over or under secretion on the body.
38. The student will be able to list the organs of the circulatory system and describe their primary function.
39. The student will be able to describe the composition of blood and how blood is typed.
40. The student will be able to list the organs of the lymphatic system and describe their primary function.
41. The student will be able to list the organs of the respiratory system and describe their primary function.
42. The student will demonstrate knowledge of the mechanism of the respiratory system and respiratory volumes and exchange.
43. The student will be able to name all of the organs of the digestive system and describe their primary function in the digestive process.

44. The student will be able to describe of how carbohydrates, lipids, and protein are digested and absorbed and utilized by the cells of the body.
45. The student will be able to name the basic food groups and list their major sources.
46. The student will be able to explain the role of vitamins in nutrition.
47. The student will be able to list and describe the function of the organs of the urinary system.
48. The student will be able to describe urine formation and the composition of urine.
49. The student will be able to describe the fluid and electrolyte balance in the body's tissues and explain the mechanism of water and electrolyte balance.
50. The student will be able to describe the structure, location and function of the male reproduction system.
51. The student will be able to describe the structure, location and function of the female reproduction system.
52. The student will be able to describe how hormones control the activities in both the male and female reproductive system and how they affect the secondary sexual characteristics,
53. The student will be able to describe gametogenesis, fertilization, and embryonic development.
54. The student will be able to explain the physiology and anatomical changes experienced the menstrual cycle, pregnancy and the birth process.
55. The student will be able to describe various methods of birth control.
56. The student will be able to discuss the significance of chromosomes in heredity.
57. The student will be able to discuss the structure of DNA and it relates to heredity and briefly describe the process of protein synthesis and the role that DNA and RNA play in the process.
58. The student will be able to describe the mechanisms of gene inheritance and relate some human genetic disorders to the process.

# ACADEMIC SCHEDULE

## BIO 115 Human BIOLOGY

Tentative Schedule

**Lecture: 6:00pm – 9:00pm - Tuesday (T)**

**Lab: 6:00pm – 9:00pm - Thursday (R)**

FALL 2010

Rosemary Gentile

WEEK – DATE	***** LESSON(S) *****	
1      08/26	Orientation Handout Syllabus <b>LAB:</b> Laboratory Safety & Scientific Method - Chapter 1	
2      08/31	The Chemical & Biological organization of life – Required reading – Chapter 2	
2      09/02	<b>LAB: Care and Use of the Microscope</b>	
3      09/07	<u>Quiz 1</u> / The Cell – Required reading – Chapter 3	
3      09/09	<b>LAB: The Cell / Mitosis /</b>	
4      09/14	<u>Quiz 2</u> / Tissues and the organ systems / Skin – Required reading – Chapter 4	
4      09/16	<b>LAB: Tissues</b>	
5      09/21	<u>Quiz 3</u> The skeletal system – Required reading – Chapter 5	
5      09/23	<b>LAB: The Skeletal System – Major bones of the human body</b>	
6      09/28	UNIT TEST 1 - 6:00pm–7:20pm / <b>Lecture</b> from 7:40pm – 9:00pm The Muscular system – Required reading – Chapter 6	
6      09/30	<b>LAB: Practical 1</b>	
7      10/05	The Muscular system cont'd. / Blood – Required reading – Chapter 11 / The cardiovascular system – Required reading – Ch. 12	
7      10/07	<b>LAB: Muscular Anatomy</b>	



8	10/12	<u>Quiz 4</u> / cardiology system cont'd / The Lymphatic System- Required reading – Chapter 12 / Body Defense Mechanism – Required reading – Chapter 13
8	10/14	<b>LAB: Cardiology</b>
9	10/19	<u>Quiz 5</u> / Infectious Diseases – Required reading Chapter 13 / The Respiratory System – Required reading – Chapter 14
9	10/21	<b>LAB: Special senses</b>
10	10/26	<u>Quiz 6</u> / The Nervous System – Required reading – Chapters 7,8,9
10	10/28	<b>LAB: Respiratory</b>
11	11/02	The Nervous system cont'd.
11	11/04	<b>LAB: Nutrient in foods</b>
12	11/09	UNIT TEST 2 - 6:00pm – 7:20pm/ <b>Lecture</b> from 7:40pm to 9:00pm The Endocrine System – Required reading – Chapter 10
12	11/11	<b>LAB: Uro-Gential system</b>
13	11/16	The endocrine system cont'd / The Digestive System & Nutrition Required reading – Chapter 15
13	11/18	<b>No Lab</b> / <u>Quiz 7</u> / The Digestive system & Cellular Respiration
14	11/23	The Urinary System – Required reading – Chapter 16
14	11/25	<b><i>Its Thanksgiving Day – Required Eating - any food of your Choice</i></b>
15	11/30	<u>Quiz 8</u> / The Reproductive system – Required reading – Chapter 17
15	12/02	<b>LAB: Lab practical 2</b>
16	12/07	<u>Quiz 9</u> / Human Development & Genetics – Required reading – Chapters 18,19,20,21
16	12/09	UNIT TEST 3

17	12/14	Review Unit Test 3 and The Semester and/or oral presentations
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17	12/16	<b><u>FINAL EXAM</u></b> - 6:00pm – 8:00pm
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