



Concurrent Enrollment Course Outline

TC3 Course # & Title: BIOL 104 General Biology I **Credit Hours:** 4

Instructor e-mail: acostello@unatego.stier.org

Course Description:

This is one of two semesters of an introductory level biology sequence designed for students who plan to transfer to an upper level program in science, environmental science, medicine, or a science-related field. Students who are interested in a rigorous study of biology may also enroll. Topics include basic chemistry and biochemistry, cell morphology, physiology and energetics; and classical and molecular genetics. Laboratories are strongly quantitative. Substantial outside preparation for lectures and laboratories is required.

Minimal Basic Skills Needed to Complete Course Successfully:

Basic skill requirements such as math, reading, and writing are required to successfully complete this course. The ability to take well organized notes; to work in groups during lecture and laboratory sessions; to follow oral and written directions; and to read textbook material that contains a large amount of technical vocabulary to interpret complex diagrams and flowcharts.

Required Texts and Materials: All texts required & supplied by the school.

Starr, C., Taggart, R., Evers, C. & Starr, L. (2013). *Biology: Unity and Diversity of Life. 13th ed., AP ed.* Pacific Grove: Brooks/Cole Cengage Learning.

Skloot, R. (2011). *The immortal life of Herietta Lacks.* New York: Broadway Paperbacks.

Class Modalities/Alternative Learning Strategies: Lectures and laboratory exercises form the core of this course. Students will also have to read a novel centered on science and society. Additionally, the instructor may wish to include structured discussion sessions, student presentations, and/or original student research.

Statement of Academic Integrity: Students are expected to do their own works on tests, quizzes, reports, homework and all other forms of academic expression. Any student found to have in any way presented work not his/her own (including plagiarism) will, as a minimum, lose full credit for the assignment, test or quiz, and face other possible disciplinary consequences. (As stated in the Unatego Student-Parent Handbook 2-14-2015)

Make-Up Policy/Late Work: Late work will be accepted up until grades are due with penalty. Make-up exams will also be allowed at times determined by the instructor.

Attendance Policy: Unatego High School believes that classroom participation is related to and affects a student's performance and grasp of subject matter, and, as such, is properly reflected in a student's final grade. In order to obtain credit in a course, a student must attend a minimum of 90% of the scheduled class. This means a student could be absent no more than 27 periods for a full year science course (including lab periods) or 13.5 periods of a half-year course.

Student Responsibilities:

Students are expected to examine, connect, and integrate essential knowledge of biological topics rather than simply accumulate isolated facts. Students will develop this conceptual understanding as the course content works its way from the chemical composition of living things through heredity. The course also emphasizes developing science practices such as advanced inquiry and reasoning skills, in order to further connect concepts in and across domains.

In order to accomplish this feat, students will complete laboratory work, weekly quizzes, unit exams, laboratory notebooks, presentations to peers, and formal laboratory write-ups, all which are evaluated for student understanding. Students will also read and respond to a novel, and discuss current events in biology in order to develop an idea of how science works as a process to provide new biological information to society, therefore allowing society to better understand the natural world, and sometimes bringing to light societal problems.

Evaluation/Grading System:

Method	% Course Grade
3 examinations covering several chapters	30%
A cumulative final examination covering all core concepts	25%
Laboratory reports or other evaluation of work completed in the lab	30%
Student papers, quiz material, reading responses	15%

Your final grade is based on completion of the following tasks;

Unit Exams (3) Multiple choice & short answer format (100pts/each) 300 pts

Final Exam, Units 1-3, lab inclusive, multiple choice & short answer 250 pts

Laboratory reports (15) (20pts/report) 300 pts

Weekly quizzes (20) (5pts/each) 100 pts

Reading Response (HeLa Novel) (10) (5pts/each) 50 pts

EVALUATION/GRADING SYSTEM

Letter grades are based on point totals as follows;

1000 - 930 =A

929 – 900 = A-

899 – 870 = B+

869 – 840 = B

839 – 810 = B-

809 – 780 = C+

779 – 750 = C

749 - 720 = C-

719 – 690 = D+

689 – 660 = D

659 - 630 = D-

<629 = F

COURSE OUTLINE & DUE DATES: *Dates & assignment subject to change. *

Week of	Topic & Chapter	Lab	Assignments
9/4 & 9/11	Syllabus, Registration Ch 1 Intro to Biology	Safety, Notebooks Notebook Grading	Reading guide
9/11 & 9/18	Ch 2 Chemistry Ch 3 Biochemistry	Microscopes (1)	Quiz 1 Quiz 2
9/18	Ch 3 Biochemistry Ch 4 Cells	Practice Lab Notebook Format – Fizzing Candle	Quiz 3
9/25	Ch 4 Cells Ch 5 (partial) Membranes	AP Diffusion & Osmosis (2)	Quiz 4 HeLa Reading 1
10/2	Ch 11 & 12 Cell Division	Egg Osmosis Inquiry (3)	
10/9	Ch 11 & 12 Cell Division	AP Mitosis & Meiosis (4)	Quiz 5 HeLa Reading 2
10/16	Ch 11 & 12 Cell Division EXAM #1 (Ch 2- 5, 11, 12)	AP Mitosis & Meiosis (4) - continued	Quiz 6 EXAM #1 (Ch 2- 5, 11, 12)
10/23	Ch 5 Metabolism	Enzyme Activity (5)	HeLa Reading 3 Quiz 7
10/30	Ch 6 Photosynthesis	AP Plant Pigment & Photosynthesis (6)	HeLa Reading 4 Quiz 8 Quiz 9
11/6	Ch 7 Cellular Respiration	AP Cell Respiration (7)	HeLa Reading 5 Quiz 10
11/13	Ch 7 Cellular Respiration EXAM #2 (Ch 5-7)		HeLa Reading 6 EXAM #2 (Ch 5-7)

11/20 & 11/27	Ch 13 Inheritance	Corn Cob Genetics Chi Square Testing Mendelian Genetics Packet (8)	Quiz 11 Quiz 12 HeLa Reading 7
12/4	Ch 14 Chromosomes, genes, human genetics	Virtual Fruit Fly (9) Begin Fruit Fly study (14 &15)	HeLa Reading 8 Quiz 13 Quiz 14
12/11 & 12/18	Ch 8 DNA	Practice Gel Electrophoresis DNA fingerprint (10) Paternity Test (11)	HeLa Reading 9 Quiz 15 Quiz 16
1/1	Ch 8 DNA EXAM #3 (Ch 13,14 & 8)	Continue Fruit Fly Study	HeLa Reading 10 EXAM #3 (Ch 13,14 & 8)
1/8	Ch 9 DNA → Protein Ch 10 Gene Control	Continue Fruit Fly Study	Quiz 17 Quiz 18
1/15	Ch 15 Manipulating Genomes	Transformation of E.coli (12) Glowing Bacteria (13)	Quiz 19 Quiz 20
1/22	Final Exam Review FINAL EXAM *final exam is cumulative but heavy in Ch 9, 10 & 15	Fruit Fly Laboratory Study/Report Due by end of Semester (14 & 15)	FINAL EXAM