

Information for Course Selection

BIOLOGY 1107: Principles of Biology I

Mrs. McLeod

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Science and Technology Education Center

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This course is given in cooperation with UConn Early College Experience www.ece.uconn.edu

Course Description:

Four credits. A course in high school level chemistry or concurrent enrollment in CHEM 1127 are recommended for students enrolling in 1107. Designed to provide a foundation for more advanced courses in Biology and related sciences. Topics covered include molecular and cell biology, animal anatomy and physiology (BIOL 1107). Laboratory exercises in BIOL 1107 include dissection of preserved animals.

Course Goals:

Students will experience a college course in a high school setting, providing a foundation for more advanced coursework in the field of Biology. Students will develop college-level critical thinking skills, study habits, and laboratory skills. Students will expand their understanding and appreciation for the study of Biology.

If you have any questions regarding this class, please email amcleod@bridgeportedu.net.

Uconn ECE Grading Requirements

Lecture Component of Course (65% of total course grade):

Exams: A minimum of four(4) exams is required for each course and must be administered by the ECE Biology Instructor. Lecture exams will typically consist of 50-100 multiple choice questions and may contain a variety of other question types(i.e., short answer, essay, matching, labeling diagrams, etc.).

Quizzes: Quizzes and other in-lecture assessments will be used on occasion and may count for up to 10% of the lecture grade.

Laboratory Component of Course (35% of total course grade):

Quizzes: Laboratory quizzes are given at the beginning of every laboratory session and include approximately 10 free-response questions designed to assess the students learning from the previous laboratory exercise.

Homework Assignments: Students are usually given homework assignments designed to either prepare for upcoming laboratory exercises or to reinforce the material learned the previous laboratory exercise.

Laboratory Reports: ECE Biology students are required to complete at least one(1) formal writing assignment during the course to gain experience with the scientific method and scientific writing as well as complete several smaller Results/Writing assignments as outlined in the Laboratory Syllabus.

***Please Note: In addition to the grade that the student receives in the 1107 course,(worth 85%), each student will take a course exit exam(worth 15%) written by University Professors and administered by the ECE Instructor. The exam will be cumulative and consist of fifty(50) multiple-choice questions.**

Laboratory Information

Equipment and skills: You will be taught the proper use of various laboratory equipment including volumetric pipettes, micropipettes, spectrophotometers, pH probes, dissection tools, and microscopes.

Dissection Policy: The use of preserved and dissected animals is required for this course.

Laboratory Grading Policy: This will be presented in your first lab section and is given in the lab syllabus.

High School Grade

In addition to the Uconn grade, a high school grade will be given. This may differ from the Uconn grade and will include additional requirements including your SAE

Lecture and Exam Schedule -

The class is separated into three main units: Biochemistry and Cell Biology, Genetics and Molecular Biology, and Animal Form and Function. A typical week will include 2 lectures and two class periods of lab work.

Unit	Lecture #	Biology 1107 Lecture Schedule	Text Readings
Unit 1: Biochemistry and Cell Biology	1	Introduction, Chemical context of life	Ch 1, Ch 2
	2	Chemistry of life I (water, pH, carbon)	Ch 3, 4
	3	Chemistry of life II (carbohydrates, lipid, proteins, nucleic acids)	Ch 5
	4	Membranes and transport	Ch 7
	5	Tour of the Cell – Prokaryotes, Eukaryotes	Ch 6
	6	Cell communication	Ch 11
	7	Metabolism I (thermodynamics, enzymes)	Ch 8
	8	Metabolism II (cellular respiration)	Ch 9
	9	EXAM 1	
Unit 2: Genetics and Molecular Biology	10	Molecular basis of Inheritance (DNA)	Ch 16
	11	From Gene to Protein	Ch 17
	12	Regulation of gene expression –Prokaryotes, Eukaryotes	Ch 18-19

	13	Cell cycle and cell reproduction (Mitosis)	Ch 12
	14	Meiosis and sexual reproduction	Ch 13
	15	Mendelian Genetics	Ch 14-15
	16	DNA technology and Genomics I	Ch 20
	17	DNA technology and Genomics II	Ch 20
	18	EXAM 2	
Unit 3: Animal Form and Function	19	Genetic basis of development	Ch 21
	20	Animal development	Ch 47
	21	Animal structure and function (bioenergetics)	Ch 40
	22	Animal Nutrition	Ch 41
	23	Circulation and Gas Exchange	Ch 42
	24	Immunology I	Ch 43
	25	Immunology II	Ch 43
	26	EXAM 3	
	27	Osmoregulation and Excretion	Ch 44
	28	Hormones and the Endocrine System	Ch 45
	29	Reproduction	Ch 46
	30	Nervous System I	Ch 48
	31	Nervous System I	Ch 48
	32	Sensory Mechanisms	Ch 49
	33	Musculo-skeletal system	Ch 49
		34	EXAM 4
	35	EXIT Exam - Cumulative	