SYLLABUS
UCONN BIOLOGY 1107: Principles of Biology I

Room: S120 (Biology Lab)
Instructor: Lucas M. Fatsy, M. S.
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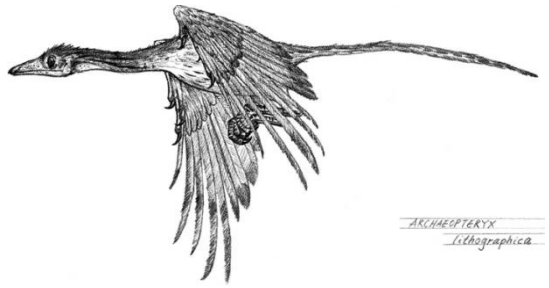
Office Hours: by appointment'
Google Classroom Code to find/submit work: syfl3kv



I. COURSE INTRODUCTION. Mr. Fatsy's UCONN ECE (Early College Experience) Biology will introduce a student to the basic concepts of system structure and function of living organisms. It will also cover the breadth of genetics as it applies to the genetic material and how traits are inherited through lineages from both a molecular and a physical perspective. This is a course of college level rigor which will supply students who earn a 75% or better in the course, eligibility for UCONN credit for their effort. Concepts will be studied through high interest investigations and labs, as well as engaging lecture discussions in the theoretical approach to major concepts.

II. Course Prerequisites: 1. Grade of "A" earned in General Biology & Chemistry, 2. 3.33 GPA or better (recommended), 3. <u>Instructor permission if any of 1 & 2 are not met</u>.

III. Materials you will need for this course:

Biology, 10th Edition, by Neil Campbell and Jane Reece. Assigned readings should be read prior to each lecture.

Spiral bound notebook or 3-ring binder with 100 extra sheets of college-ruled paper for lecture

Laptop for simulations and check-ins

IV. Computer and Internet Access:

Access to the internet is required, especially during this semester during a global pandemic. This means that maintaining your laptop or taking all necessary steps to assure you have internet access both for class after school is crucial for success in Mr. Fatsy's ECE biology course. In times of no internet, the local library or Starbucks is a great option, paying mind to proper distancing guidelines.

Course PowerPoint presentations will be posted on Mr. Fatsy's personal website (www.birdmanscience.weebly.com) BUT the screencast of any distance lectures will be posted to the Google Classroom, as will all assignments that require turning in. As you know, all current grades can be seen in PowerSchool.

V. Exams and Grades:

Exam dates: There will be five exams, each covering 1/5 of the course material each. Exams will be held during class time and will take most of the 80-minute block period to complete. During COVID-19, any online exams will be on a secure site and you will have a window of time in which to complete the exam.

Exam format, content, and point value: All five exams will consist of 50 questions in multiple-choice format and 5 essay questions for a total of 150 points per exam and 750 exam points per semester.

The labs account for 480 points (or 30 points each). Students must bring TWO #2 pencils to each exam, if given in person. *Exams will be primarily based on lecture material but will also include material both discussed and not discussed from assigned text readings and the study guides. Please take note: a portion of the fifth exam is dedicated to the last 1/5 of the course material and will be given during the final exam week. The second portion of the final exam will be dedicated to comprehensive material from previous exams. The average of the five exam scores will comprise 60% of your course grade. Grades for each exam are not scaled. Your performance in labs and projects will contribute the remaining 40% of your course grade.

VI. Makeup Exams:

Makeup Exam Policy: Makeup exams are available only to students who have a legitimate excuse for missing an exam, such as illness, scheduled college interview out of town, athletic team event out of town, death in the immediate family, etc. If you know in advance that you must miss an exam, see Mr. Fatsy prior to this date and bring documentation to support your anticipated absence. If you miss an exam unexpectedly because of last minute illness or accident, contact the instructor when you return to campus (or by phone or e-mail if you will be away for some time) and provide documentation of your situation. Should you miss the class prior to the class in which the exam will be held, you are still responsible for taking the exam. If you miss class the day of the exam, you will take the exam after school within five (5) school days of the exam date.

VII. Attendance Policy:

Attendance for scheduled labs is mandatory.

VIII. Makeup Policy for Labs:

All labs are changed regularly, so it is not possible to make alternate arrangements for lab once the next lab has been set up. If you must miss a lab for a valid reason, contact Mr. Fatsy ASAP (within 24 hours of your lab period) and provide the required documentation. All students are responsible for the lab material for the final exam. Without documentation of absence, the student will not be allowed to make up the missing lab session.

IX. Dissection Policy:

The use of preserved and dissected animals is required for this course. If you are unwilling to participate in these exercises you should drop this course. In the event of religious contradiction, please see Mr. F to discuss alternatives, should they be available.

X. Laboratory Grading Policy:

You must complete the laboratory activities during scheduled lab class(es) to receive credit. Missing more than 3 laboratory periods, for any reason (including illness), makes you ineligible to receive laboratory credit. This will result in a final COURSE grade of "F" even if your grades are otherwise adequate to pass the course. If you find yourself in the situation of missing more than three labs, you should contact Mr. F and/or drop the course and retake it at a later date when you can complete the full course and all of its parts. All lab reports must be turned in on or before the date due. Late submittal is not accepted without substantial proof of inability to complete the work.

XI. Academic Misconduct Policy:

A fundamental tenet of all educational institutions is academic honesty; academic work depends upon respect for and acknowledgement of the research and ideas of others. Misrepresenting someone else's work as one's own is a serious offense in any academic setting and it will not be condoned. Academic misconduct includes, but is not limited to the following:

• Providing or receiving assistance in a manner not authorized by the instructor in the creation of work to be submitted for academic evaluation (e.g. papers, projects, and examinations).

• Any attempt to influence improperly (e.g. bribery, threats) any member of the faculty, staff, or administration of the school in any matter pertaining to academics or research.

• Presenting as one's own work the ideas or words of another for academic evaluation.

• Doing unauthorized academic work for which another person will receive credit or be evaluated.

• Presenting the same or substantially the same papers or projects in two or more courses without the explicit permission of the instructors involved. A student who knowingly assists another student in committing an act of academic misconduct shall be equally accountable for the violation, and shall be subject to the sanctions and other disciplinary actions determined by the Behavior Code and administration review.

XII. MR. F's NON-NEGOTIABLE CLASS RULES:

1. Have all material with you when you get to class, if you forgot something in another class, you can pick it up during non-lecture time.
2. ABSOLUTELY NO CELL PHONE USE IN CLASS (not even as a calculator).
3. Earphones/ear buds will be taken away if you have them on at any time (*unless, Mr. F is assigning classwork in independent time, then they can be taken out of your backpack*)
4. Use the rest room before class. You will lose too much time using the rest room during tests. If you cannot wait, your cell phone must be left on Mr. F's desk (no exceptions).
5. Class materials are your own responsibility.
6. Homework bins should be used for all paper-based work
7. Packing up early is not allowed, if so, Mr. F will indicate, otherwise, **we work to the bell!**
8. During all projects and labs, leave 5-10 minutes for "Mandatory Clean-up". All work stations must be left spotless (no exceptions). Leave them as you found them.

XIII. Course Schedule

Part I: Cells-Molecules-Energy-Transport-DNA

Unit	Topic	Reading
Biochemistry, Enzymes, Cells, Membranes, & Metabolism	Course Policies & Introduction	Syllabus
	The Themes of Biology	Ch. 1
	Chemistry of Life – Water & Carbon	Ch. 2
	Chemistry of Life – Protein Structure & Function	Ch. 2
	L1. Lab – Properties of Enzymes, J. Microbiology Modeling	
	Chemistry of Life – Nucleic Acids & RNA	Ch. 2
	Chemistry of Life – Introduction to Carbohydrates	Ch. 2
	Chemistry of Life – Lipids	Ch. 2
	Water and the Fitness of the Environment	Ch. 3
	Carbon and the Molecular Diversity of Life I	
	Carbon and the Molecular Diversity of Life II	Ch. 4
	Exam I	
	Cell Biology – Organelle Function I	Ch. 6
	L2. Microscope Lab 1/2 – Care & Basic Operation	
	L2. Microscope Lab 2/2 – Benchtop Techniques	
	Cell Biology – Organelle Function II	Ch. 6
	The First Cells (Prokaryote to Eukaryote)	Ch. 6
	L3. Microscope Lab – Cell Types	
	Membrane Structure & Function	Ch. 7
	Membrane Transport Mechanisms	Ch. 7
	L4. Cell Transport Lab – Diffusion & Dialysis	
	Introduction to Metabolism	Ch. 8
	Cellular Respiration – Aerobic Respiration	Ch. 9
	L5. Pea Seed Cellular Respiration	
	Anaerobic Respiration	Ch. 9
	Lactic Acid Fermentation (Yogurt & Root Beer)	Ch. 9
	Cell Communication	Ch. 11
	Viruses	Ch. 19
	The Cell Cycle	Ch. 12
	L6. Microscope Lab – Mitotic Stages and Structures	
	Meiosis & Sexual Life Cycles	Ch. 13
	L7. Microscope Lab - Meiotic Stages & Structures	
	Exam II	
Cell Division, Genetics, DNA, Protein Synthesis, & Gene Expression	Mendel and the Gene I	Ch. 14
	Mendel and the Gene II	Ch. 14
	Molecular Basis of Inheritance I	Ch. 16
	Molecular Basis of Inheritance II	Ch. 16
	L8. Lab – Genetics of Organisms	
	Chromosomal Basis of Inheritance I	Ch. 15
	Chromosomal Basis of Inheritance II	Ch. 15

	Protein Synthesis I	Ch. 17
	Protein Synthesis II	Ch. 17
	L9. Lab – Protein Synthesis Simulation	
	Regulation of Gene Expression – Prokaryotes	Ch. 18
	Regulation of Gene Expression - Eukaryotes	Ch. 18
	Biotechnology – Genetic Engineering	Ch. 20
	L10. Lab - Electrophoresis and Restriction Enzymes	
	Genomes and their Evolution	Ch. 21
	EXAM III	
Animal Form & Function	Animal Structure and Function I	Ch. 40
	Animal Structure and Function II	Ch. 40
	Animal Structure and Function III	Ch. 40
	Animal Nutrition & Energy Use	Ch. 41
	Digestive System Structure & Function	Ch. 40
	L12. Lab – Digestive Systems**	
	The Immune System	Ch. 43
	Armando Hasundigan – Immune System Art	
	Circulatory Adaptations & Thermoregulation	Ch. 40
	L13. Lab: Physiology of the Circulatory System**	
	EXAM IV	
	Osmoregulation and Excretion	Ch. 44
	L14. Lab – Gas Exchange, Reproductive & Excretory Systems**	
	Hormones & Endocrine System I	Ch. 45
	Hormones & Endocrine System II	Ch. 45
	Animal Development	Ch. 47
	Neurons, Synapses and Signaling	Ch. 48
	Nervous System	Ch. 49
	Sensory and Motor Mechanisms	Ch. 50
	L16. Lab – Nervous and Sensory Mechanisms**	
	LAB PRACTICAL (L9-L16)	
	EXAM V (Final Exam)	
	**Note: asterisk labs above will involve dissections of preserved specimens	