BIO 1050 An Introduction to Life
Course Syllabus
Fall 2019

Instructor: ***Robert A Thomas, Ph.D***.
2121 Biological Sciences Building
Office phone: (313) 577-3548
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CLASS MEETING LOCATION
150 General Lectures

CLASS MEETING TIME
Monday, Wednesday, 2:30 – 3:45 P.M.

COURSE DESCRIPTION AND OBJECTIVES
Challenges to modern society from population growth, new diseases, environmental degradation, urban pollution; medical advances and ethical dilemmas in decoding human genome; impact of biological findings on political and personal decisions; issues considered in context of principles and strategies of modern biological research.

Starting with basic concepts of biology, we will advance to understanding more complex topics relevant to modern society. The objective is to provide both science and non-science major students with a broad-based and fundamental understanding of the basic biology relating to biodiversity, relationships that exist between all life forms from the prokaryotic to eukaryotic systems.

Students will be able describe:

1. How **science is based on evidence** and makes predictions and interpret biological data **qualitatively, quantitatively, and with graphs**.
2. How **structures** of molecules, cells and tissues relate to their **functions**
3. How **information** flows in cells, from DNA to RNA to proteins, and in the mitotic and meiotic cell cycles.
4. How **energy and matter are transformed** in cellular respiration and photosynthesis.
5. How the components of cells interact as **systems** to generate emergent properties
6. How biological information can be **modified by mutations** and **biotechnology**.
7. How inheritance and mutations are critical for **evolution**.
8. How **microorgansisms** impact on **technology** and **health**.
9. How science informs the decisions of a **society**, and how science, such as biological engineering, creates opportunities that require informed citizens and policies.

Course assignments will illustrate the impact that human populations can have on altering biosystems that we share with other organisms. Following this course it is expected that students will have an increase in understanding of what Biology is, and a greater appreciation of how their personal, political, ethical choices can have an enormous global impact.

COURSE PREREQUISITES

There are no prerequisites for this course. This course is designed for both science and non-science majors.

OFFICE HOURS

Days and times: **Mondays and Wednesday 12:30 – 2:00 (may adjust days and time) in room 2121 Biological Sciences Bldg.** A mutually convenient appointment at other times may also be arranged after class or by email at: **aa1467@wayne.edu**

In addition, you may e-mail **Dr. Thomas** questions or comments. Depending on the load, responses are usually provided within a day or two.

EXAMS

There will be (4) 50 minute midterm lecture exams each worth **120 points (30 questions)**, and a Final Exam comprehensive, worth **240 points (60 questions)** consisting of a mix of True/False, and Multiple choice questions. It is strongly recommended that you **DO NOT** miss a lecture exam. I will show you how to calculate your grade to determine your standing in the class at all times. **If at any time you drop below 70% (C-) average, please make a point to come and see me to discuss your progress in the class.**

There will be a final exam which can make up for any single missed test, or you can replace your lowest midterm exam score with the final exam score. This exam will be comprehensive and covers all of the material presented over the entire course.

If you miss an exam, there are no makeup exams **under any** circumstances. **So don't ask !!!!!!!**

COURSE CREDITS

This is a 3 credit course for (18370) non-honors students.

TEXT BOOK AND LECTURE SLIDES:

Lecture: Biology: Concepts and Connections (Ninth Edition with a Red Panda cover) by Taylor, Simon, Dickey, Hogan, and Reece

CAMPBELL BIOLOGY:CONC...(LL)-W/ACCESS

REQUIRED | *ByTAYLOR*

EDITION: 9TH 18
PUBLISHER: PEARSON **ISBN:** 9780134536347
BOOK NOTES:
This is a loose-leaf option designed to save you money. A 3-Ring Binder is suggested to keep your book intact.

from **$200.00 - $200.00**

SELECT FORMAT

CAMPBELL BIOLOGY:CONC...-MASTER.W/ETEXT

REQUIRED | *ByTAYLOR*

EDITION: 9TH 18
PUBLISHER: PEARSON **ISBN:** 9780134606125
BOOK NOTES:
This access code includes an e-book version of the textbook.

from **$124.55 - $124.55**

SELECT FORMAT

CAMPBELL BIOLOGY:CONC...-W/MASTERING.

REQUIRED | *ByTAYLOR*

EDITION: 9TH 18
PUBLISHER: PEARSON **ISBN:** 9780134240688
BOOK NOTES:
This Textbook package contains a required access code for materials utilized in the class.

from **$264.25 - $264.25**

SELECT FORMAT

CAMPBELL BIOLOGY:CONCEPTS+CONNECT.-TEXT

PACKAGE COMPONENT | *ByTAYLOR*

EDITION: 9TH 18
PUBLISHER: PEARSON **ISBN:** 9780134296012

from **$113.05 - $238.00**

SELECT FORMAT

CAMPBELL BIOLOGY:CONC...(LOOSE)

PACKAGE COMPONENT | *ByTAYLOR*

EDITION: 9TH 18
PUBLISHER: PEARSON **ISBN:** 9780134442778
BOOK NOTES:
This is a loose-leaf option designed to save you money. A 3-Ring Binder is suggested to keep your book intact.

from **$34.30 - $171.40**

SELECT FORMAT

NOTE *Every effort will be made to provide the lecture slides on Canvas sometime before the class meets. I recommend that you look over slides, and print handouts to bring to class.*

EXAM DATES

EXAM I - Monday, September 30, 2019
EXAM II - Monday, October 28, 2019
EXAM III - Monday, November 25, 2019
EXAM IV - Monday, December 9, 2019

The **Final Exam will be held on Wednesday December 11th at 2:45 – 4:45 in room 150 General Lectures**. NOTE THAT THE ROOM IN WHICH THE FINAL EXAM WILL BE HELD IN IS THE SAME AS THE REGULAR CLASS ROOM. The final exam is scheduled as designated in the Schedule of Classes for this term (https://wayne.edu/registrar/pdfs/final_exam_schedule_fall_2019.pdf). No other time for the final exam will be available, and no exceptions will be made for conflicts such as student travel plans.

EXAM FORMATS

The exams may include questions that are True/False and Multiple choice. All exams will be closed book and held in class. All you will need is a few sharp pencils. No electronic devices of any kind will be allowed unless indicated otherwise in advance, and cell phones and pagers must be turned off. Anyone who leaves the exam room will not be allowed back in. Late-arriving students should know that admittance into the exam room will not be allowed after the first student has left the room. **Scantron forms will be supplied**.

There will be four **50 minute** lecture exams. Each exam will be worth 120 points. If you miss an exam, there will be a **comprehensive make up exam** at the end of the term. You can only substitute this exam for one missed or your lowest exam. All other missed exams will be counted as a zero.

GRADING

Your final grade for this class is based on total points earned. The course will have a total of 600 points for the semester.

	Points
Exam 1	/ 120
Exam 2	/ 120
Exam 3	/ 120
Exam 4	/ 120
***Final Exam**	/ 240
Course Total	/ 600

100 - 93 % = A
90 – 92 % = A-
89 - 87 % = B+
86 - 84 % = B
83 - 80 % = B-
79 - 77 % = C+
76 - 74 % = C
73 - 70 % = C-
69 - 67 % = D+
66 - 64 % = D
63 - 60 % = D-
59 - 0 % = F

Class participation and attendance are strongly encouraged but will not be graded.

There is no extra credit under any circumstances. Exam grades will be posted on blackboard your Student ID number as soon as possible after the exam has been administered.

Individual lecture exams will not be curved. Overall course scores may or may not be curved. Course grades will be determined from total point accumulation at the end of the semester.

Students with scheduling conflicts for any exam must notify Dr. Thomas in writing by class time at least **two weeks before the scheduled exam**. No make-up exams will be given unless he is notified in writing by this date. Reasonable exceptions will be granted in cases of illness that will require notification prior to the exam and must be followed up with an original signed note from a physician.

EXAM GRADE DISPUTES / CHALLENGE OPTION

Students will have one (1) week after the return of an exam or a written assignment to challenge a grade for any question. Failure to challenge the grade within this period indicates a willingness to accept the grade as is. The challenge should consist of a written description of why the answer is correct based on other published material that you cite. It is not an opportunity to complain.

CHEATING

A strict zero-tolerance policy for cheating will be enforced. Anyone caught cheating on an exam will receive a score of 0 (zero) for that portion of the grade.
Students found to be cheating during an exam (using a "cheat sheet", looking at another's paper, or allowing another to look at yours), will receive a zero for that test with no opportunity to drop or replace that score. A second episode of cheating will result in a grade of F for the course and may also result in initiation of university disciplinary action.

Professional behavior is expected in lecture, which includes respecting your classmates by arriving on time, **turning off cell phones and not talking**, not eating or drinking during class. All students must show respect in language and attitude towards the instructors and their fellow students. You are encouraged to discuss differences of opinion with each other, respectfully, but not during lecture, as this would be distracting to your fellow students and to the instructor as well.

Another word on cell phones- if a cell phone rings during an exam, the owner of the cell phone will be asked to hand in his/her exam and leave the room. **TURN OFF YOUR PHONES (OR, BETTER YET, DO NOT BRING THEM AT ALL) BEFORE EXAMS OR RISK EARNING A ZERO ON YOUR EXAM!!!! OTHER ELECTRONIC DEVICES (APPLE WATCHES, TABLETS, COMPUTERS, CAMERAS, CALCULATORS, ETC.) MAY NOT BE PRESENT DURING EXAMS, AND IF SEEN THEY WILL BE CONFISCATED ALONG WITH THE EXAM.**

POSTING OF EXAM GRADES

Scored exam grades will be posted on Canvas by Student ID Number as soon as possible after the exam has been administered. The distribution of scores will also be provided in class.

SPECIAL CONSIDERATIONS FOR INDIVIDUALS WITH DISABILITIES

If you have a physical or mental impairment that may interfere with your ability to complete the requirements for this course successfully, you are invited to contact Educational Accessibility Services (1600 David Adamany Library; 577-1851) to discuss appropriate accommodations on a confidential basis.

RELIGIOUS HOLIDAY CONFLICTS

If you have a conflict with any of the scheduled class or exam times due to religious reasons, you must notify Dr. Thomas in writing by class time on by class time **two weeks before the scheduled exam**. No make-up exams will be given unless s/he is notified in writing by this date.

ADD/DROP POLICY

Add forms will not be signed after Wednesday September 11, the second week of class.

Drop forms must be submitted to the Registrar before the end of Wednesday September 11 to get tuition cancellation. Wayne State has changed the grading policy. There are no more "X" grades. If you sign up for a class, stop attending, and fail to withdraw, you will receive an F for the course. In addition, if you drop the course after 5 weeks, you will be assigned one of the following three marks: WP (withdrew but was passing at the time), WF (withdrew but was failing at the time), WN (withdrew and never attended class or no graded work). Also, any "I" given to a student will automatically revert to "F" if the work is not completed within one calendar year. There are no exceptions. Further information on the grading policy can be found at https://reg.wayne.edu/students/policies.

UNEXPECTED UNIVERSITY CLOSURES.

If the University is officially closed on an exam day, the exam will be held on the next regularly scheduled class day. Closure of the University is announced by the following mechanisms:

1. the University Newsline (313) 577-5345 *
2. WSU Homepage (www.wayne.edu) *
3. WSU Pipeline (www.pipeline.wayne.edu) *
4. WDET-FM (Public Radio 101.9)
5. by other local radio and television stations

* Note: The information on closures and class cancellations is likely to be found at these locations before it is broadcast by local radio and television stations

OTHER

I am happy to write letters of recommendations for students who earn a grade of A.
Please turn all cell phones off during class and during exams.
Any specific issue not covered by this syllabus will be resolved using University policies.
Disputes that cannot be resolved following the guidelines present in this syllabus will be resolved by following the guidelines of the University "Student Due Process".

Final Exam Schedule Fall 2019

Final Exam Time	Final Exam Date					
	Wednesday, December 11	Thursday, December 12	Friday, December 13	Saturday, December 14	Monday, December 16	Tuesday, December 17
8:00 - 10:00 a.m.	Classes that start Monday at 8:30 a.m.	Classes that start Tuesday at 8:30 a.m.	Common Finals: MAT 0900, 0993, 1050, STA 1020	All Saturday classes will hold their final exams during regular meeting period.	Classes that start Monday at 9:30 or 10 a.m.	Classes that start Tuesday at 9:30 or 10 a.m.
10:15-12:15 p.m.	Classes that start Monday at 10:30 a.m.	Classes that start Tuesday at 10:30 a.m.	Common Finals: MAT 1000, 1800, 2010		Classes that start Monday at 11:30 a.m.	Classes that start Tuesday at 11:30 a.m.
12:30 - 2:30 p.m.	Classes that start Monday at 12:30 or 1:00 p.m.	Classes that start Tuesday at 12:30 or 1:00 p.m.	Common Finals: SPA 1010, 1020, 1060, 2010, GER 1010, 1020, 2010 FRE 1010, 1020, 1060, 2010, ITA 1010		Classes that start Monday at 1:30 p.m.	Classes that start Tuesday at 1:30 p.m.
2:45 - 4:45 p.m.	Classes that start Monday at 2:30 p.m.	Classes that start Tuesday at 2:30 p.m.	Common Finals: PHY 2130, 2140		Classes that start Monday at 3:30 p.m., 4 or 4:30 p.m.	Classes that start Tuesday at 3:30 p.m., 4 or 4:30 p.m.
6:00 – 9:00 pm		Common Finals: FIN 3290				

Class #	BIO 1050 SYLLABUS Fall 2019 (Note that the schedule is tentative and may be changed)		Chptr #
1	Wednesday, August 28, 2019	Housekeeping / Course Overview / Exploring Life	1
	Monday, September 02, 2019	NO CLASS - LABOR DAY	
2	Wednesday, September 04, 2019	The Chemical Basis of Life / Molecules of the Cells	2, 3
3	Monday, September 09, 2019	A Tour of the Cell	4
4	Wednesday, September 11, 2019		
5	Monday, September 16, 2019	The Working Cell (Passive Transport, Active Transport, Enzymes)	5
6	Wednesday, September 18, 2019	How Cells Harvest Chemical Energy (Cellular Respiration, Citric Acid Cycle, Fermentation)	6
7	Monday, September 23, 2019		
8	Wednesday, September 25, 2019	Photosynthesis (Calvin Cycle)	7
9	Monday, September 30, 2019	EXAM I	1 - 7
10	Wednesday, October 02, 2019	The Cellular Basis of Reproduction and Inheritance (Mitosis, Meiosis, Chromosomes)	8
11	Monday, October 07, 2019		
12	Wednesday, October 09, 2019	Pattterns of Inheritance (Mendel's Laws, Sex Chromosomes)	9
13	Monday, October 14, 2019		
14	Wednesday, October 16, 2019	Molecular Biology of the Gene (DNA replication, Transcription, Translation, Mutations, Viruses)	10
15	Monday, October 21, 2019		
16	Wednesday, October 23, 2019	How Genes are Controlled (Gene Expression, Cloning, Cancer)	11
17	Monday, October 28, 2019	EXAM II	8 - 11
18	Wednesday, October 30, 2019	DNA Technology and Genomics (Cloning, GMO, DNA Profiling, Genomics)	12
19	Monday, November 04, 2019	How Populations Evolve (Darwin's Theory of Evolution, Hardy-Weinberg, Microevolution)	13
20	Wednesday, November 06, 2019	The Origin of Species	14
21	Monday, November 11, 2019	Tracing Evolutionary History	15
22	Wednesday, November 13, 2019	Microbial Life: Prokaryotes and Protists	16
23	Monday, November 18, 2019	Unifying Concepts of Animal Structure and Function	20
24	Wednesday, November 20, 2019	Plant Structure, Growth, and Reproduction	31
25	Monday, November 25, 2019	EXAM III	12 -16, 20, 31
26	Wednesday, November 27, 2019	NO CLASS - THANKSGIVING	
27	Monday, December 02, 2019	The Biosphere: An Introduction to Earth's Diverse Environments	34
28	Wednesday, December 04, 2019	Conservation Biology	38
29	Monday, December 09, 2019	EXAM IV	34, 38
2:45-4:45	Wednesday, December 11, 2019	FINAL EXAM	All

IMPORTANT DATES DURING THE FALL 2019 SEMESTER

This info can be found online at *https://wayne.edu/registrar/registration/calendar19-20*

Final 2019-2020 Academic Year	Fall 2019
Schedule of Classes Online	Mon Feb 25
Priority Registration (First week schedule)	Mon Mar 25 - Sun Aug 18
Open Registration (Add'l $35 Fee for Initial Registration)	Mon Aug 19 - Tue Aug 27
University Year Appointments Begin/End	Mon Aug 19
Classes Begin	Wed Aug 28
Holiday - University Closed	Mon Sep 2
Late Registration (Add'l $70 for Initial Reg. only), and 1st Week Late Adds	Wed Aug 28 - Wed Sep 4
Late Registration (Add'l $70 for Initial Reg. only), and 2nd Week late Adds	Thu Sep 5 - Wed Sep 11
Last Day for Tuition Cancellation - Full Term Courses/Census Date	Wed Sep 11
Early Academic Assessment	Wed Sep 11 - Tues Oct 15
Instructor Approval Required to Withdraw from Classes. In Academica: select "Course Withdrawal" from the Registration Menu under Student Resources; ***SMART Check*** is required.	Thu Sep 12 - Sun Nov 10
Degree Applications Due	Fri Sep 27
Last Day to Request Course Withdrawal	Sun Nov 10
Holiday - No Classes	Wed Nov 27
Holiday - University Closed	Thu Nov 28 - Sat Nov 30
Commencement	TBD
Classes End	Mon Dec 9
Study Day - **Final Exams May Not Be Scheduled**	Tue Dec 10
Final Exams	Wed Dec 11 - Tue Dec 17
Holiday - University Closed	Wed Dec 25 - Wed Jan 1