Biology 1510 – Basic Life Mechanisms
Winter 2020, 3/4 Credits

Course website: www.blackboard.wayne.edu
Instructor: Dr. Robert Thomas
Office Location: 2121 Biological Sciences Building (BSB)
E-mail: aa1467@wayne.edu ***(preferred contact)***
Office Phone: 313-577-3548

Dr. Thomas's **office hours** are from **Mondays and Wednesday 9:30 – 11:45 (may adjust days and time) in room 2121 Biological Sciences Bldg.**. You do not need an appointment to come to office hours, just come to my office with your questions. If you cannot make office hours, I may be able to see you by appointment to be arranged by e-mail.

Lectures meet **from 11:30 – 12:20 Monday, Wednesday, Friday in room 100 General Lectures WSU Main campus**
Lab sections meet in room 2003 or 2004 Science Hall (room depends on your section number). You will get a lab syllabus in your laboratory.

Required Materials:

1) **Textbook: Biology**, *12TH Edition* (2017) by P.H. Raven, G.B. Johnson, K.A. Mason, J.B. Losos, and S.R. Singer, published by McGraw-Hill. *The **CONNECT supplement for the text book is optional**, though many students find it beneficial to use*.
2) **Lab Manual: BIO 1510** *Laboratory Manual*, published by Hayden-McNeil.
3) **Course Web Site:** Class announcements, lecture materials and exam results will be posted on CANVAS: http://canvas.wayne.edu.

Course Objectives: The overall objective of the course is for students to demonstrate an understanding of the basic mechanisms of life. To this end, the course will use lectures, in-class activities, textbook reading, online resources, demonstrations and labs to cover major topics in modern biology. Lecture students will be expected to demonstrate their understanding on multiple-choice questions, in assigned readings and during in-class activities.
Students will describe:
1. How inheritance and mutations are critical for **evolution**.
2. How **structures** of molecules, cells and tissues relate to their **functions**.
3. How **information** flows in cells in signal transduction pathways, from DNA to RNA to proteins, and in the mitotic and meiotic cell cycles; and how biological information can be modified by mutations and biotechnology.
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.
7. How **science is based on evidence** and makes predictions and interpret biological data **qualitatively, quantitatively, and with graphs**.
8. Discuss scientific ideas multiple ways – in discussions, in written paragraphs, in drawings and in graphs – to be able to **communicate across disciplines**.
9. How science informs the decisions of a **society**, such knowing about cell signaling, mutations and inheritance; and how science, such as biological engineering, creates opportunities that require informed citizens and policies.

Details of the lab are described in the lab syllabus. The lab is an integral part of this course. Dr. Thomas will assign the one grade that will be given for the four credit course that includes the lecture and the lab. The lab is directed by Ms. Maggie Tucker.

CONTACTING Dr. THOMAS AND GETTING HELP
Office Location for Dr. Thomas: 2121 Biological Sciences Building (BSB)
E-mail: aa1467@wayne.edu (This is the preferred contact. I check my email frequently.)
Office Phone: 313-577-3548 (Not preferred. Leave a voicemail)

Discussion Board on CANVAS: The discussion board is a great place to ask questions about the material. I will try to answer questions posted there, but often another student will answer you even faster. There will also be sections of the discussion board for clickers and other potential issues. Please post to the appropriate section (forum).

Email: Email is a good way to communicate with me with questions other than those about the material. I will answer as soon as I can, which will usually be within **two business days**, although it may take longer during busy times of the semester. If you have a question on the material, the discussion board is better because you will get an answer faster and more people will benefit. **See the email guidelines in General Policy 2.**

Office Hours: Office hours are a good time to talk in person about your questions on the material from the course or issues that are specific to you, such as concerns about the course, study strategies, grade problems, special needs or career issues. **Dr. Thomas's office hours Mondays and Wednesday 9:30 – 11:45 (may adjust days and time) in room 2121 Biological Sciences Bldg. You do not need an appointment to come to office hours**, just come to my office. If you cannot make office hours, I may be able to see you by appointment to be arranged by email at least 24 hours in advance.

Meet me in the lecture classroom before or after class: Before is **not** a good time to ask me questions unless it is clear I am done setting up the lecture. After, I have limited time to get out of the way of the next class. I generally do not have my course records handy, so plan on addressing such questions during my office hours.

Academic Success Center: There will be tutoring and other workshops in the Academic Success Center. See http://success.wayne.edu/ and future posts on CANVAS for more information.

Supplemental Instruction (SI): information on SI will be posted on CANVAS through the semester.

Because of the volume of material in this course, all of my lectures (powerpoint slides/animations) will be posted before class on CANVAS, and most of the audio and video from the lectures will be recorded as to help you better focus on the concepts presented during the lecture, which will be available on the EchoCenter on the CANVAS web site.

The four hourly exams and an optional makeup final will each be worth 187.5 points, for a total of 750 exam points. Lecture exams will consist of 50 multiple choice questions. The lowest unit exam score can be replaced by the final makeup exam score, if replacement improves your grade. The final exam score will still be counted as the final exam. Missed exams will be scored as zero, and one missed exam will be replaced with the score on the final make-up exam. The final exam cannot be dropped or replaced with another assignment. All unit exams will be held in the regular lecture room at the regular lecture time. The final exam **April 27, 2020** , in our regular room starting at **10:15 -12:15.**

Exam Schedule

EXAM I - Monday, February 3, 2020
EXAM II - Monday, February 24, 2020
EXAM III - Monday, March 23, 2020
EXAM IV - Monday, April 20, 2020
FINAL/Makeup Exam – April 27, 2020

Homework/Quizzes: In lieu of homework/quiz assignments, **you are strongly encouraged** to review the Chapter Review summaries , and Review Questions at the end of each chapter, to ensure that you have grasped the topics covered in the lectures.

Participation: Regular attendance will not be taken, but regular attendance is encouraged. It has been shown that regular attendance correlates well with overall class performance.

Lab: There will be 250 points for lab. Please refer to your lab syllabus for more details. The lab syllabus will be distributed at the first meeting of your lab **(DO NOT TAKE THE LAB FOR GRANTED IT ACCOUNTS FOR 25% OF YOUR FINAL GRADE!).**

Grades:

Exam 1 - 187.5 pts.
Exam 2 - 187.5 pts.
Exam 3 - 187.5 pts.
Exam 4 - 187.5 pts.
Final makeup exam 187.5 pts (If needed).
Lab 250
Total 1000

Grading Policy: Grades will be based on 1000 points total, 750 from lecture exams and 250 from lab points. **I do not curve grades.** Grades will be calculated on the following scale:

A 92.5-100%	**A- 90.0-92.4%**	**B+ 87.5-89.9%**	**B 82.5-87.4%**	**B- 80.0-82.4%**
C+ 77.5-79.9%	**C 72.5-77.4%**	**C- 70.0-72.4%**	**D+ 67.5-69.9%**	**D 62.5-67.4%**
D- 60.0-62.4%	**F 0-59.9%**			

General Policies:

1) Anyone caught cheating or plagiarizing will automatically receive a failing grade for the exam, assignment or class, and may be expelled from the University. For discussions of cheating see the "Student Code of Conduct," which can be found at **https://doso.wayne.edu/pdf/student-code-of-conduct.pdf.**

2) Email guidelines: I will respond to most other emails within 72 business hours **Due to privacy laws you must email me from your WSU email account.** I expect emails to be in a professional style, with your course number in the subject, a proper greeting, e.g. "Dear Professor Thomas," a proper salutation, e.g. "Sincerely, Chris Smith," correct punctuation including capitalization and no texting abbreviations. Emails that do not follow these rules may take longer get a reply, may be returned for correction, or ignored. If I cannot figure out what you want, I cannot help you.

3) Any special considerations (disabilities, religious holiday conflicts, etc.) must be brought to the attention of the instructor as soon as possible as the situation arises. If you have a documented disability that requires accommodations, you will need to register with Student Disability Services for coordination of your academic accommodations. The Student Disability Services (SDS) office is located at 1600 David Adamany Undergraduate Library (UGL) in the Student Academic Success Services department. SDS telephone number is 313-577-1851 or 313-577-3365 (TTY: telecommunication device for the deaf; phone for hearing impaired students only). Once you have your accommodations in place, I will be glad to meet with you privately during my office hours to discuss your special needs. Please refer to the SDS website for further information about students with disabilities and the services we provide for faculty and students: **http://studentdisability.wayne.edu/**

4) Conflicts regarding the grading of any assignment or exam must be brought to Dr. Thomas's attention in an email within one week of the date an exam key or grade is posted. Please use the forms that will be in the exams section of Blackboard for exam and exam grade questions.

5) If you need to see me and cannot come during office hours, you need to set up an appointment by email. In order to schedule these appointments, you need to contact me 24 hours in advance. I cannot guarantee I will be available.

6) Professional behavior is expected in lecture and labs, which includes respecting your classmates by arriving on time, turning off cell phones and not talking, eating or drinking during class. **The no eating or drinking in class rule applies even though our class meets over the lunch hour. The reason is that food in class distracts you, your neighbors and me; you will need to turn a talk to others during class and spills make a mess for everyone.** 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. Disrespectful students will be asked to leave the lecture or lab, and will lose their opportunity to turn in any missed assignments.

7) Withdrawals: Friday January 17, 2020 is the last day you can drop the class and get your tuition refunded. The last day to drop this course with the Instructor's approval is March 22, 2020. **This drop date is earlier than previous academic years because there has been a change to University Policy.** If you withdraw, you will receive a WN on your transcript if you never completed any assignment; a WP if you have greater than 60% of the points possible at the time of your request on exams ; or a WF if you have less than 60% of the points possible at the time of your request. No exams or other grades are dropped in this calculation. Lab grades are not included in this calculation. You initiate a withdrawal request in Pipeline by selecting "Withdraw from a Class" on the Student Self Service Menu.

8) For any and all issues not covered in this syllabus, refer to the "Student Code of Conduct", which can be found at http://www.doso.wayne.edu/judicial/index.htm

9) University closures will be publicized through:

- ✓ the University Newsline (313) 577-5345*,
- ✓ WSU Homepage (www.wayne.edu)*,
- ✓ WSU Pipeline (www.pipeline.wayne.edu)*,
- ✓ WDET-FM (Public Radio 101.9) and
- ✓ 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.
If a unit exam is scheduled on a day when the University or lecture room is officially closed during class, the exam will be held during the next scheduled meeting of lecture that occurs when the University and room are open, or as indicated on the class blackboard site.

10) Updates to this syllabus and schedule may be posted on the course CANVAS website at https://canvas.wayne.edu/. **<u>You are responsible for checking announcements and your University email account. I recommend checking at least once each business day of a semester in which you are enrolled.</u>**

Basic Life Mechanisms (BIO 1510) Lecture Syllabus and Exam Schedule Winter 2020 (Tenative Schedule)			
Class	**Date**	**Lecture topic**	**Chapter**
1	Monday, January 06, 2020	Housekeeping / Science of Biology	1
2	Wednesday, January 08, 2020		
3	Friday, January 10, 2020	Nature of Molecules and the Propertities of Water	2
4	Monday, January 13, 2020		
5	Wednesday, January 15, 2020	The Chemical Building Blocks of Life	3
6	Friday, January 17, 2020		
7	Monday, January 20, 2020	NO CLASS - MLK BIRTHDAY	
8	Wednesday, January 22, 2020	Cell Structure	4
9	Friday, January 24, 2020		
10	Monday, January 27, 2020	Membranes	5
11	Wednesday, January 29, 2020	Prokaryotes	28
12	Friday, January 31, 2020		
13	Monday, February 03, 2020	**Exam I**	1-5,28
14	Wednesday, February 05, 2020	Energy and Metabolism	6
15	Friday, February 07, 2020		
16	Monday, February 10, 2020	How Cells Harvest Energy	7
17	Wednesday, February 12, 2020		
18	Friday, February 14, 2020	Photosynthesis	8
19	Monday, February 17, 2020		
20	Wednesday, February 19, 2020	Cell Communication	9
21	Friday, February 21, 2020		
22	Monday, February 24, 2020	**Exam II**	6-9
23	Wednesday, February 26, 2020	How Cells Divide	10
24	Friday, February 28, 2020	Sexual Reproduction	11
25	Monday, March 02, 2020	Pattern of Inheritance	12
26	Wednesday, March 04, 2020		
27	Friday, March 06, 2020	Chromosomes, Mapping, and the Meiosis-Inheritance Connection	13
28	Monday, March 09, 2020	**NO CLASS - SPRING BREAK**	
29	Wednesday, March 11, 2020		
30	Friday, March 13, 2020		
31	Monday, March 16, 2020	DNA: The Genetic Material	14
32	Wednesday, March 18, 2020		
33	Friday, March 20, 2020	Genes and How They Work	15
34	Monday, March 23, 2020	**Exam III**	10 - 15
35	Wednesday, March 25, 2020	Control of Gene Expression	16
36	Friday, March 27, 2020		
37	Monday, March 30, 2020	Viruses	26
38	Wednesday, April 01, 2020		
39	Friday, April 03, 2020	Genomics	18
40	Monday, April 06, 2020		
41	Wednesday, April 08, 2020	Biotechnology	17
42	Friday, April 10, 2020		
43	Monday, April 13, 2020	The Animal Body and Principles of Regulation	41
44	Wednesday, April 15, 2020		
45	Friday, April 17, 2020	TBA	TBA
46	Monday, April 20, 2020	**Exam IV**	16-18,26,41
47	Monday, April 27, 2020	**FINAL EXAM 10:15 - 12:15**	ALL

Final 2020 Academic Year	Winter 2020
Schedule of Classes Online	Mon Oct 7
Priority Registration (First week schedule)	Mon Oct 28 - Sun Dec 29
Open Registration (Add'l $35 Fee for Initial Registration)	Mon Dec 30 - Sun Jan 5
University Year Appointments Begin/End	Thu May 14
Classes Begin	Mon Jan 6
Holiday - University Closed	Mon Jan 20
Late Registration (Add'l $70 for Initial Reg. only),	Mon Jan 6 - Sun Jan 12
and 1st Week Late Adds	
Late Registration (Add'l $70 for Initial Reg. only),	Mon Jan 13 - Fri Jan 17
and 2nd Week late Adds	
Last Day for Tuition Cancellation -	Fri Jan 17
Full Term Courses/Census Date	
Early Academic Assessment	Tue Jan 21 - Mon Feb 24
Instructor Approval Required to Withdraw from Classes.	Sat Jan 18 - Sun Mar 22
In Academica: select "Course Withdrawal" from the	
Registration Menu under Student Resources;	
SMART Check is required.	
Degree Applications Due	Fri Feb 7
Last Day to Request Course Withdrawal	Sun Mar 22
Holiday - No Classes	Mon Mar 9 - Sat Mar 14
	(Spring Break)
Holiday - University Closed	
Commencement	TBD
Classes End	Mon Apr 20
Study Day - **Final Exams May Not Be Scheduled**	Tue Apr 21
Final Exams	Wed Apr 22 - Tue Apr 28
Holiday - University Closed	
University Re-Opens After Semester Break	Thu Jan 2