

**BIO 1030 Biology Today**  
**Course Syllabus**  
**Winter 2019**

**Instructor:** Robert A Thomas, Ph.D.

2121 Biological Sciences Building

Office phone: (313) 577-3548

Email: aa1467@wayne.edu

**CLASS MEETING LOCATION**

224 State Hall

**CLASS MEETING TIME**

Monday, Wednesday and Friday, 1:30 – 2:20 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 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 **microorganisms** 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 non-science majors.

## OFFICE HOURS

Days and times: **Mondays and Tuesday 2:30 – 3:30 (may adjust days and time) in room 2121 Biological Sciences Bldg.** A mutually convenient appointment at other times may also be arranged 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) 40 minute midterm lecture exams, and a Final Exam comprehensive, each worth **120 points** consisting of True/False, and Multiple choice. 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 both non-honors (20987) and honors (20265) students.

## TEXT BOOK AND LECTURE SLIDES:

**Lecture:** Essentials of Biology by Mader and Windelspecht 5<sup>th</sup> Edition 2018.

**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, January 28, 2019**

**EXAM II - Monday, February 25, 2019**

**EXAM III - Monday, March 25, 2019**

**EXAM IV - Monday, April 22, 2019**

The **Final Exam will be held on Monday April 24, at 12:30 – 2:30 State Hall.** 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. 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 if required. **Do not bring your own scantron forms to the exam as you will not be allowed to use them.**

There will be four **40 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 480 points for the semester.

|               | Points |
|---------------|--------|
| Exam 1        | / 120  |
| Exam 2        | / 120  |
| Exam 3        | / 120  |
| Exam 4        | / 120  |
| Optional      | / 120  |
| *Final Exam 5 |        |
| Course Total  | / 480  |

**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 may or may not be curved. Overall course scores will 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 ( IPODS, 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 Blackboard 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 12, the second week of class.**

**Drop forms must be submitted to the Registrar before the end of Wednesday September 12 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>.

## Biology Today (BIO 1030) Lecture Syllabus Lecture and Exam Schedule: Winter 2019

(Tentative Schedule)

| CLASS | DATE                         | TOPIC                                    | CHAPTER |
|-------|------------------------------|--|---------|
| 1     | Monday, January 07, 2019     | Studying Biology / Introduction          | 0       |
| 2     | Wednesday, January 09, 2019  | Biology and the Living World             | 1       |
| 3     | Friday, January 11, 2019     | The Scientific Process                   |         |
| 4     | Monday, January 14, 2019     | Core Ideas of Biology                    |         |
| 5     | Wednesday, January 16, 2019  | <b>NO CLASS MLK B-DAY</b>                |         |
| 6     | Friday, January 18, 2019     | Atoms /Water                             | 2       |
| 7     | Monday, January 21, 2019     |  |         |
| 8     | Wednesday, January 23, 2019  | Forming Macromolecules                   | 3       |
| 9     | Friday, January 25, 2019     | Types of Macromolecules                  |         |
| 10    | Monday, January 28, 2019     | <b>TEST 1</b>                            | 0 - 3   |
| 11    | Wednesday, January 30, 2019  | The World of Cells / Kinds of Cells      | 4       |
| 12    | Friday, February 01, 2019    | Tour of a Eukaryotic Cell                |         |
| 13    | Monday, February 04, 2019    |  |         |
| 14    | Wednesday, February 06, 2019 | Viruses, Bacteria and Protists           | 17      |
| 15    | Friday, February 08, 2019    | Cells and Energy                         | 5       |
| 16    | Monday, February 11, 2019    |  |         |
| 17    | Wednesday, February 13, 2019 |  |         |
| 18    | Friday, February 15, 2019    | Photosynthesis/ Cellular Respiration     | 6       |
| 19    | Monday, February 18, 2019    | Cellular Respiration                     |         |
| 20    | Wednesday, February 20, 2019 |  |         |
| 21    | Friday, February 22, 2019    | Cellular Reproduction                    | 8       |
| 22    | Monday, February 25, 2019    | <b>TEST 2</b>                            | 4 - 8 & |
| 23    | Wednesday, February 27, 2019 | Meiosis and the Genetic Basis of Sexual  | 9       |
| 24    | Friday, March 01, 2019       | Patterns of Inheritance                  | 10      |
| 25    | Monday, March 04, 2019       |  |         |
| 26    | Wednesday, March 06, 2019    | DNA Biology – Structure and Function     | 11      |
| 27    | Friday, March 08, 2019       | DNA Biology – Expression and Regulation  |         |
| 28    | Monday, March 11, 2019       | <b>NO CLASS SPRING BREAK</b>             |         |
| 29    | Wednesday, March 13, 2019    |  |         |
| 30    | Friday, March 15, 2019       |  |         |
| 31    | Monday, March 18, 2019       | Biotechnology and Genomics               | 12      |
| 32    | Wednesday, March 20, 2019    | Biotechnology and Genomics / Genetic     | 12/13   |
| 33    | Friday, March 22, 2019       | Genetic Counseling                       | 13      |
| 34    | Monday, March 25, 2019       | <b>TEST 3</b>                            | 9 - 13  |
| 35    | Wednesday, March 27, 2019    | Darwin and Evolution                     | 14      |
| 36    | Friday, March 29, 2019       |  |         |
| 37    | Monday, April 01, 2019       |  |         |
| 38    | Wednesday, April 03, 2019    | Evolution on a Small/Large Scale         | 15 & 16 |
| 39    | Friday, April 05, 2019       | Overview of the Immune System            | 26      |
| 40    | Monday, April 08, 2019       |  |         |
| 41    | Wednesday, April 10, 2019    | Being Organized and Steady               | 22      |
| 42    | Friday, April 12, 2019       | Human Impact on the Biosphere            | 32      |
| 43    | Monday, April 15, 2019       |  |         |
| 44    | Wednesday, April 17, 2019    |  |         |
| 45    | Friday, April 19, 2019       | <b>TBA - REVIEW</b>                      |         |
| 46    | Monday, April 22, 2019       | <b>Last Day of Class TEST 4</b>          | 14 - 32 |
| 47    | Monday, April 29, 2019       | <b>FINAL (Comprehensive) 12:30- 2:30</b> |         |

## 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](http://www.wayne.edu)) \*
3. WSU Pipeline ([www.pipeline.wayne.edu](http://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".

## IMPORTANT DATES DURING THE FALL 2019 SEMESTER

*This info can be found online at <https://reg.wayne.edu/students/calendar18-19>*

| 2019 Academic Year   | Winter 2019                               |
|--|---|
| Schedule of Classes Online   | Mon Oct 8                                 |
| <a href="#">Priority Registration (First week schedule)</a>                  | Mon Oct 29 - Sun Dec 30                   |
| Open Registration (Add'l \$35 Fee for Initial Registration)                  | Mon Dec 31 - Sun Jan 6                    |
| University Year Appointments Begin/End                                       | Wed May 15                                |
| Classes Begin  | Mon Jan 7                                 |
| Holiday - University Closed  | Mon Jan 21                                |
| Late Registration (Add'l \$70 for Initial Reg. only), and 1st Week Late Adds | Mon Jan 7 - Sun Jan 13                    |
| Late Registration (Add'l \$70 for Initial Reg. only), and 2nd Week late Adds | Mon Jan 14 - Fri Jan 18                   |
| Last Day for Tuition Cancellation - Full Term Courses/Census Date            | Fri Jan 18                                |
| Early Academic Assessment  | Tue Jan 22 - Mon Feb 25                   |
| Instructor Approval Required to Withdraw from Classes.                       | Sat Jan 19 - Sun Mar 24                   |
| In Academica: select "Course Withdrawal" from the                            |   |
| Registration Menu under Student Resources;                                   |   |
| ***SMART Check*** is required.   |   |
| Degree Applications Due  | Fri Feb 8                                 |
| Last Day to Request Course Withdrawal  | Sun Mar 24                                |
| Holiday - No Classes   | Mon Mar 11 - Sat Mar 16<br>(Spring Break) |
| Holiday - University Closed  |   |
| Commencement   | TBD                                       |
| Classes End  | Mon Apr 22                                |
| Study Day - <b>Final Exams May Not Be Scheduled</b>                          | Tue Apr 23                                |
| Final Exams  | Wed Apr 24 - Tue Apr 30                   |