

BIO 1050 - An Introduction to Life
Course Syllabus
Winter 2020

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2121 Biological Sciences Building

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CLASS MEETING LOCATION

046 (lower) Deroy Hall

CLASS MEETING TIME

Monday, Wednesday, Friday 1:30 – 2:20 P.M.

COURSE DESCRIPTION AND OBJECTIVES

A factual and conceptual treatment of modern biology at the cell, organismal, and population levels of organization.

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 microorganisms, to eukaryotic plant and animal systems. In conclusion you will be able to understand the impact that ecosystems have on the diversity of life forms on the planet.

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 both science and non-science majors.

OFFICE HOURS

Days and times: **Mondays and Wednesday 9:30 – 11:00 (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.

Textbook: CAMPBELL Biology: Concepts & Connections (Ninth Edition, with the red panda cover pub. Pearson) by Taylor, Simon, Dickey, Hogan, and Reece

Access to the textbook (any format) is required for success in this course.

Copies of the textbook are available in the STEM Commons and on reserve in the undergraduate library (ask at the front desk). Excellent digital materials and **Mastering Biology** come with the eBook and are **highly recommended.**

RESOURCES FOR SUCCESS

Canvas: Our course Canvas site (canvas.wayne.edu) includes the syllabus, FAQs, announcements, study tools, study guides team areas, lecture slides and recordings, and a Discussions area. Check Canvas once every business day of the semester. **You will need internet access to keep up in class.** If your home access is not good, you will need to plan time on campus to use the computers in the library, or somewhere else with access.

Chapter Reviews: At the end of the Chapters in the book there are Review sections that highlight the key concepts and test your comprehension of the material covered from the chapter. Answers and explanations are given in the Appendix 4 section of the book. It is possible that you will see questions on the exams directly related to this material, so **I would strongly suggests** that you carefully go over this section at the end of the Chapters.

Canvas Discussions: For questions that might also benefit other students, please post to Discussions in Canvas, so everyone can help each other and see the answers. You will get information faster this way because an answer your question may already be posted, and classmates may answer faster than I can.

Lecture Recordings: The lectures usually will be recorded and posted in Canvas under **Echo360 Recordings.** You also are welcome to record lectures for your personal use. Audio or video recordings or pictures are to be used only for the student's personal instructional use. Such recordings are not intended for a wider public audience, such as postings to the internet or sharing with others. If you take pictures, please disable your flash because flashes are very distracting. **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.**

Technical Support: I can help with course-specific Canvas problems (on the Discussions board), but not system issues. If you have problems with Echo360, the Canvas system or email, please contact Computing & Information Technology (C&IT) at (313)577-4778 or helpdesk@wayne.edu.

Office Hours: Office hours are a good time get help with your questions on the material from the course or issues that require discussion or are specific to you, such as concerns about the course, study strategies, grade problems, special needs or career issues.

Sometimes students also need to talk to me individually for paperwork or private issues, and it has not been working to have one hour set aside per week with other appointments scheduled by email. Students tell me they want to be able to easily schedule short, individual appointments. This semester we will be trying a new system to make it easier for us to schedule this way.

I will offer short individual appointments scheduled on request. You will request an appointment through a link in our Canvas site. You will tell me how long of an appointment you think you need (10, 15 or 20 minutes), and three times you could meet. I will be notified of your request; will pick a time; and will make a set of appointments in Canvas during that time. All of my students will be notified of the newly available appointments, unless they have changed their Canvas settings from the defaults. You or other students will be able to claim an appointment (or cancel an appointment) within Canvas. The idea is that if one student wants an appointment at a certain time, others may too. This will allow us to set up and have appointments efficiently with the most flexibility for students' busy schedules.

Email: Email works for questions that do **not** require interactive discussion and are not appropriate to post to the whole class on the Discussions board. For example, if you will miss class because you are a student athlete, are part of another WSU program, have a court date, or have jury duty, please email me the dates involved and documentation. Include whether the dates include an exam or not.

LEARNING COMMUNITY SUPPORT

Peer Mentors: You have a free learning community of classmates and a peer mentor that meets once a week (also known as small group meetings, team meetings or discussions) and sits together in lecture. This community is a resource for your success in this course and at WSU. Our data shows the learning community has increased the pass rate in the class by about 15%, but it will only work for you if you take participate.

Your Learning Community: The members of your learning community are another resource. Support each other in your mutual success by asking for help when you need it and sharing your strategies for success.

STEM Commons: Your peer mentors are available in the [STEM Commons](#). Ask your mentors about the material, study skills, research experiences, how to succeed at WSU. You also will have your weekly team meeting in the Commons. Feel free to talk to any peer mentor there, not just your own. The Commons is also great for independent small group study. The Commons is located across Gullen Mall from

the Student Center; and will be open from 9 am to 9 pm Mondays through Thursdays, and 9 am to 5 pm Fridays.

WAYNE STATE UNIVERSITY SUPPORT

Academic Success Center: Get free individual **tutoring** and group **workshops** in the Academic Success Center. You can also make a free appointment with a learning specialist to design study strategies just for you. See success.wayne.edu/ for more.

Multicultural Student Engagement (OMSE) omse.wayne.edu. Rm 799, Student Center

Counseling and Psychological Services (CAPS) It is quite common for college students to experience mental health challenges, such as stress, anxiety and depression, that interfere with academic performance and negatively impact daily life. Help is available for any currently enrolled WSU student who is struggling with a mental health difficulty caps.wayne.edu Rm 522 Student Center 313 577-3398. See the FAQs for additional tips on managing anxiety.

COURSE STRUCTURE

EXAMS:

There will be (4) 50 minute midterm lecture exams each worth **120 points (40 questions)**, and a Final Exam comprehensive, worth **120 points (40 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.**

The lowest unit exam score is automatically dropped to accommodate personal reasons that may arise to miss an exam. You do not need to explain or submit an excuse. I assume if you miss an exam you have a good reason. There are no alternative dates or times to take or make-up unit exams.

All exams will be in the regular lecture room. Unit exams are during lecture as indicated in the schedule at the end of the syllabus. Rules and procedures for exams will be explained before exams and must be followed for all exams.

Sample Exam Questions: To help you prepare for the upcoming exams I will provide you with a few related questions in the form of a sample exam. This will give you an idea of the type of questions and topics to expect on the actual exam. I will usually post these on the Wednesday preceding the actual exams. Along with the exams, I will also post a separate answer key to confirm your answers. The recommended use of the sample is to initially answer as a close book exam (to test your knowledge), then use your text book to look up the answers, and finally check the answer keys to confirm your answers. Many of my previous students have found this approach very useful before taking my actual exams.

EXAM DATES

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

The **Final Exam will be held on Monday April 27th at 12:30 – 2:30 in room 046 Deroy 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

(https://wayne.edu/registrar/scheduling/final_exam_schedule_winter_2020.pdf). No other time for the final exam will be available, and no exceptions will be made for conflicts such as student travel plans.

Final Exam Schedule Winter 2020

| Final Exam Time | Final Exam Date | | | | | |
|------------------|---|--|---|---|--|---|
| | Wednesday, April 22 | Thursday, April 23 | Friday, April 24 | Saturday, April 25 | Monday, April 27 | Tuesday, April 28 |
| 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 p.m. | | Common Finals: FIN 3290 | | | | |

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 480 points for the semester.

| | | |
|----------------|----------------------------------|------------|
| Grades: | Unit Exams 1-4 (120 points each) | 480 points |
| | Drop one lowest unit exam | -120 |
| | <u>Final exam</u> | <u>120</u> |
| | Total | 480 points |

Grading Policy: Grades will be calculated on the following scale:

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

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 Canvas by 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 and Drop forms will not be signed after, the second week of class, Friday January 17. Drop forms must be submitted to the Registrar before the end of Friday January 17 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 Newslines (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

Basic Life Mechanisms (BIO 1050) Lecture Syllabus and Exam Schedule

Winter 2020 (Tenative Schedule)

| Class | Date | Lecture topic | Chapter |
|-------|------------------------------|--|--------------------------|
| 1 | Monday, January 06, 2020 | Biology: Exploring Life | 1 |
| 2 | Wednesday, January 08, 2020 | | |
| 3 | Friday, January 10, 2020 | The Chemical Basis of Life | 2 |
| 4 | Monday, January 13, 2020 | | |
| 5 | Wednesday, January 15, 2020 | The Molecules of the Cell | 3 |
| 6 | Friday, January 17, 2020 | | |
| 7 | Monday, January 20, 2020 | NO CLASS - MLK BIRTHDAY | |
| 8 | Wednesday, January 22, 2020 | A Tour of the Cell | 4 |
| 9 | Friday, January 24, 2020 | | |
| 10 | Monday, January 27, 2020 | The Working Cell | 5 |
| 11 | Wednesday, January 29, 2020 | | |
| 12 | Friday, January 31, 2020 | TBA | |
| 13 | Monday, February 03, 2020 | Exam I | 1 - 5 |
| 14 | Wednesday, February 05, 2020 | How Cells Harvest Chemical Energy | 6 |
| 15 | Friday, February 07, 2020 | | |
| 16 | Monday, February 10, 2020 | Photosynthesis | 7 |
| 17 | Wednesday, February 12, 2020 | | |
| 18 | Friday, February 14, 2020 | The Cellular Basis of Reproduction and Inheritance | 8 |
| 19 | Monday, February 17, 2020 | | |
| 20 | Wednesday, February 19, 2020 | Patterns of Inheritance | 9 |
| 21 | Friday, February 21, 2020 | | |
| 22 | Monday, February 24, 2020 | Exam II | 6 - 9 |
| 23 | Wednesday, February 26, 2020 | Molecular Biology of the Gene | 10 |
| 24 | Friday, February 28, 2020 | | |
| 25 | Monday, March 02, 2020 | How Genes are Controlled | 11 |
| 26 | Wednesday, March 04, 2020 | | |
| 27 | Friday, March 06, 2020 | NO CLASS - SPRING BREAK | |
| 28 | Monday, March 09, 2020 | | |
| 29 | Wednesday, March 11, 2020 | | |
| 30 | Friday, March 13, 2020 | NO CLASS - SPRING BREAK | |
| 31 | Monday, March 16, 2020 | | |
| 32 | Wednesday, March 18, 2020 | | |
| 33 | Friday, March 20, 2020 | TBA | |
| 34 | Monday, March 23, 2020 | Exam III | 10 - 12 |
| 35 | Wednesday, March 25, 2020 | How Populations Evolve | 13 |
| 36 | Friday, March 27, 2020 | | |
| 37 | Monday, March 30, 2020 | Unifying Concepts of Animal Structure and Function | 20 |
| 38 | Wednesday, April 01, 2020 | | |
| 39 | Friday, April 03, 2020 | The Immune System | 24 |
| 40 | Monday, April 06, 2020 | | |
| 41 | Wednesday, April 08, 2020 | The Biosphere: An Introduction to Earth's Diverse Environments | 34 |
| 42 | Friday, April 10, 2020 | | |
| 43 | Monday, April 13, 2020 | Conservation Biology | 38 |
| 44 | Wednesday, April 15, 2020 | | |
| 45 | Friday, April 17, 2020 | TBA | |
| 46 | Monday, April 20, 2020 | Exam IV | 13, 20, 24, 34, 38 |
| 47 | Monday, April 27, 2020 | FINAL EXAM 10:15 - 12:15 | |

IMPORTANT DATES DURING THE WINTER 2020 SEMESTER

| 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), and 1st Week Late Adds | Mon Jan 6 - Sun Jan 12 |
| Late Registration (Add'l \$70 for Initial Reg. only), and 2nd Week late Adds | Mon Jan 13 - Fri Jan 17 |
| Last Day for Tuition Cancellation - Full Term Courses/Census Date | Fri Jan 17 |
| Early Academic Assessment | Tue Jan 21 - Mon Feb 24 |
| Instructor Approval Required to Withdraw from Classes. In Academics: select "Course Withdrawal" from the Registration Menu under Student Resources; ***SMART Check*** is required. | Sat Jan 18 - Sun Mar 22 |
| 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 |

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

OTHER

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"
<https://generalcounsel.wayne.edu/legal/student-code>