

Course Syllabus: History of the Biological Sciences

General Information:

Course Meetings:	W (7:00 pm – 8:00 pm) Bolin Hall 213
Instructor:	James Masuoka, Ph.D.
Office:	Bolin Hall 324
Telephone:	397-4181
E-mail:	james.masuoka@msutexas.edu
Office Hours:	MWF 10:00 – 11:00 am M 12:00 – 1:00 pm TR 1:00 – 2:00 pm (Other times by appointment)

Course Description (from the catalog):

Readings and discussions of major events in the development of the biological sciences with emphasis on the formation of scientific thought regarding evolutionary theory, heredity, and organismal development.

Required Texts:

No textbooks required; required readings and other materials will be posted to the course D2L webpage.

Course Objectives:

Improve research and writing skills

Improve peer discussion skills

Appreciate the contributions of discoveries in biology to our current understanding of organisms

Describe the historical context of biological concepts and concept development over time

Classroom Expectations and Policies:

- Students are expected to be prepared for lecture and lab by 1) reading the text, lab manual and handouts prior to coming to class; 2) having paper and pen at hand
- Students are expected to arrive a few minutes early to mentally prepare. If late arrival is unavoidable, the student should enter the class in a manner that creates as little disruption as possible.
- Points will be deducted from assignments turned in late.

- Student Conduct: Please refer to the MSU Student Handbook: (<https://mwsu.edu/Assets/documents/student-life/student-handbook-2017-18.pdf>) for university policies related to student responsibilities, rights, and activities. For example, see page 73 for valid grounds for an instructor drop (excessive absence, indifferent attitude, disruptive conduct, failure to meet class assignments), page 13 for the university's code of student conduct and page 55 for definitions of academic dishonesty that may be subject to disciplinary action (cheating, plagiarism, and collusion). In this class, academic dishonesty on an assignment or exam will minimally result in a score of 0 for that assignment or exam. Depending on the magnitude or frequency of these types of infractions, more severe sanctions – including being dropped from the course – will be imposed.
- **CELL PHONES (and other electronic devices): (READ THIS TWICE, PLEASE)** This class, as well as your other classes, requires your engagement, and typical cell phone use serves to detract from that engagement. While in class, your phone should be on “silent” (NOTE: vibrate is NOT silent).
- **Other electronic devices: laptops, tablets and similar devices will no longer be permitted to be used during lectures.** The ability to take good notes is a skill that university students must be able to master. Further, classroom studies have shown that taking notes by hand increases engagement in the material. Simply transcribing the lecture word-for-word is not helpful.
- Students with disabilities: It is the responsibility of the student to first contact Disability Support Services and then the instructor to determine what accommodations might be made for a disability. It will be the responsibility of the student to plan to acquire notes. Any requests for accommodation must be made 2 weeks prior to the first exam.
- The professor considers this classroom to be a place where you will be treated with respect as a human being - regardless of gender, race, ethnicity, national origin, religious affiliation, sexual orientation, political beliefs, age, or ability. Additionally, diversity of thought is appreciated and encouraged, provided you can agree to disagree. Furthermore, guns or other weapons create a coercive environment that is neither safe nor conducive to learning. Therefore, weapons of any kind will not be permitted in my classroom. This includes guns, concealed or otherwise, regardless of licensure. Any student bringing a weapon to class or to lab will be immediately dropped from the course. It is the professor's expectation that ALL students consider the classroom a safe environment.
- The instructor reserves the right to amend these rules as needed throughout the term.

E-mail Policy:

I will respond to e-mail during regular school hours (8:30 am – 5:00 pm M-F). I will make every effort to respond to e-mail sent during the week within 24 hours. Those sent over the weekend will be attended to on Monday. Always include a subject line in your e-mail messages. It would be particularly helpful to include in the subject line the course number & section (*i.e.*, BIOL 5011). Questions regarding simple matters of class

schedule or those that can otherwise be answered from information in this syllabus will be given low priority.

Attendance Policy:

Students are expected to attend all meetings of the classes in which they are enrolled. Although in general students are graded on intellectual effort and performance rather than attendance, absences may lower the student's grade where class attendance and class participation are deemed essential by the faculty member. In those classes where attendance is considered as part of the grade, the instructor should inform students of the specifics in writing at the beginning of the semester in a syllabus or separate attendance policy statement. An instructor who has an attendance policy must keep records daily. The instructor must give the student a verbal or written warning prior to being dropped from the class. Instructor's records will stand as evidence of absences. A student with excessive absences may be dropped from a course by the instructor. Any individual faculty member or college has the authority to establish an attendance policy, providing the policy is in accordance with the General University Policies. [MSU Student Handbook, p. 61]

Absences will be excused for:

- a. **Death of an immediate family member.** An immediate family member is a grandparent, parent, sibling, spouse, in-law, aunt, uncle, or child.
- b. **Summons to appear in court or jury duty.** A copy of the summons is required.
- c. **Call to military service.** A copy of your orders to report is required.
- d. **University sponsored event.** Members of athletic teams, college bowl participants, etc. will be excused with proper notification.
- e. **Debilitating illness or disability.** Illnesses will be addressed on an individual basis. If a student is affected by an illness that is not debilitating, (*i.e.*, flu, virus infection) which may result in the student missing one or more consecutive class sessions, that student will be marked as unexcused for the number of days missed **unless a doctor's note is provided.**

ROUTINE APPOINTMENTS, medical or otherwise, AND VACATION TRAVEL ARE NOT ACCEPTABLE reasons for excused absences.

Students who feel ill (esp. with fever or symptoms of COVID-19) should stay home and isolate themselves. Notify the instructor immediately.

It is the responsibility of the student to obtain notes or other information covered in class during an absence.

Grading:

All exams and assignments count toward your final grade in the course and so it is important to do the best that you can on everything you turn in. If you find yourself having difficulties, please come to me for help early in the semester so that you give yourself time to improve.

Attendance is not a direct component of your course score. However, participation in the course discussion is a component (20%) of your course grade, and you cannot participate if you are not present. Further, continual tardiness – and the subsequent class disruption due to coming in late – will be considered and may influence your final points awarded. As stated above, cell phone use distracts from attention in class. Therefore, students who persist in using their mobile devices during class, except for designated classroom activities, will be marked as absent.

Beyond class discussion, assessment will focus on developing a term paper. There are many more concepts or topics that could be considered significant or pivotal in the history of Biology. We do not have time in a single hour over the course of a single semester to discuss them all. As the topic of your paper, choose a concept/advance/development in biology that you consider to be significant. We will discuss some possibilities the first week.

Begin developing this idea/topic as your paper focus. The first assignment will be to write a short summary or justification of your choice (10%). As part of this first assignment, you will need to collect primary and secondary sources to support your paper. You will next prepare two successive annotated bibliographies (analyzing your sources in two stages – 20% each). A final draft of your term paper (30%) will be due before the Thanksgiving break. Specific expectations and guidelines for the annotated bibliographies and the final paper will be provided separately.

This course is not graded on a traditional curve. The course is worth 250 points. Grade categories and equivalent percentages are as indicated: A (90-100%); B (80-89%); C (70-79%); D (60-69%); F (59% and below). Passing requires 60% of the points (unadjusted) for the course, or 150 points. Fractional percentages will be rounded at the end of the semester.

Note:

- 1) No regrades will be provided for exams done in pencil.
- 2) Misspelled words (esp. organism names) and incorrect taxonomic nomenclature will result in $\frac{1}{4}$ point deductions for each instance.

Assignment Summary:

Discussion/Participation (20%)	40 points
Topic summary/justification (10%)	20 points
Annotated bibliography Pt 1 (15%)	30 points
Annotated bibliography Pt 2 (15%)	30 points
Working draft (10%)	20 points
Final paper (30%)	60 points
Total:	200 points

Important Dates (Fall 2024):

Classes begin:	August 26
Labor Day (no classes):	September 2
Topic summary due:	September 11
Annotated bibliography 1 due:	October 2
Annotated bibliography 2 due:	October 23
Draft	November 6
Term paper (final draft) due:	November 25
Last day to drop with a "W":	November 25 (4:00 pm)
Thanksgiving Break (no classes):	November 27 – 29
Classes end:	December 6

Tentative Schedule

Date	Week	Topic	Reading	Assignments	
Aug. 28	1	Introduction; Course organization			
Sept. 4	2	Why Science History?	Maienschein, Cohen		
Sept. 11	3	Ancient Greece	Aristotle, Hippocrates, Galen	Summary	
Sept. 18	4	Middle East & Middle Ages	Avicenna, Harvey		
Sept. 25	5	Microscopy, Taxonomy	Hooke, Swammerdam, Linnaeus		
Oct 2	6	Cell Theory	Respail, Schwann, Virchow	Bibliography 1	
Oct. 9	7	Germ Theory	Fontana & Tozzetti, Pasteur, Koch		
Oct. 16	8	Evolution	Darwin & Wallace		
Oct. 23	9	Evolution: Other Voices	TBD	Bibliography 2	
Oct. 30	10	Chromosomes/Genes	Avery, Lederberg, Hershey		
Nov. 6	11	DNA	Watson & Crick, Pauling	Draft	
Nov. 13	12	Central Model	TBD		
Nov. 20	13	Asilomar	TBD	Term paper (11.25.24)	
Nov. 27	14	No Classes – Thanksgiving Break			
Dec. 4	15	Final discussion/wrap-up			