

Biology 498WI-0005 (14051): Critical Analysis of Biological Issues

Course Syllabus, Spring 2021

COURSE INSTRUCTOR AND OFFICE HOURS

Margaret Kincaid, PhD

Email: kincaidm@umkc.edu

Office phone: 816-235-5246

Office: 505C, SCB

Office Hours: By appointment via Zoom
in order to accommodate schedules

COURSE INFORMATION

Credit hours: 3

Prerequisite and/or Corequisite: BIOL 441

Must be an undergraduate student in the School
of Medicine

Course Attributes, Format and Teaching Mode:
Writing Intensive, Lecture, Online
Asynchronous

COURSE DESCRIPTION AND LEARNING OBJECTIVES

Reading and analysis of scientific literature, including original papers, on a topic of broad biological interest. Critical discussion of experimental methods and results. Writing of scientific reviews and a term paper. Taking the MFAT test is a requirement of this course, and the course satisfies the general education synthesis requirement.

Upon completion of this course, the student will be able to:

1. Distinguish scientifically valid, peer reviewed literature from non-scientific sources.
2. Demonstrate the ability to summarize the contents of select research papers in biology.
3. Describe the methodologies and implications in those research papers, summarizing experimental methods and interpreting results reported in primary research literature.
4. Critically evaluate scientific writing and literature, discussing strengths and weaknesses.
5. Produce written projects that effectively incorporate the ideas of others and appropriately cite sources.
6. Compose written assignments that effectively articulate a central thesis and provide supporting arguments from the current scientific literature.

REQUIRED MATERIALS

BOOKS: Polio: An American Story by David M. Oshinsky
ISBN: 0195307143
ISBN-13: 9780195307146

SUGGESTED REFERENCES

Writing Papers in the Biological Sciences. 3rd ed. Virginia E. McMillan. Bedford Books, Boston. 2001

A Short Guide to Writing about Biology. 4th ed. J. A. Pechenik. Addison Wesley Longman, New York. 2001

SUPPLIES

Students are required to access the course Canvas site, therefore access to a computer and the internet is required. Class material and assignments, including Reading Assignments, Writing Assignments, weekly Discussion Boards, Peer Review, and Supplemental Readings, will be posted on the course website on Canvas. Students are expected to participate weekly in the online course, including participation in the Discussion Boards and Peer Review.

All UMKC students are issued a University email account. This account is used by the University to communicate course, grade, financial aid, enrolment and other important college information. It is your responsibility to check your UMKC email account regularly for important information.

Use your UMKC e-mail account for correspondence with instructors. Be sure to include the words "BIOLOGY 498" in your subject line.

MINIMUM TECHNOLOGY REQUIREMENTS

SOFTWARE

1. Current version(s) of either [Firefox](#) or [Chrome](#) web browsers for Windows and/or Apple computers
2. Current version of Oracle/Java: [Download Java](#)
3. Current version of Adobe Reader: [Download Adobe Reader](#)
4. Current version of word processing software: [Download Office 365](#)
5. Popup blocking disabled

HARDWARE

1. A webcam is preferred
2. A headset with microphone
3. Broadband internet connection is preferred. Examples of broadband internet connection are high-speed DSL or a Cable modem. High-speed internet is available for students at [Campus Computer labs](#).

MAJOR FIELD EXAM

During this course students are required to take the Major Field Exam, which is a requirement for graduation. You must arrange to take the Major Field Exam with the UMKC Office of Testing Services by registering online at <https://net3.umkc.edu/intapps/exitexams/Home.aspx>. Registration requires your UMKC Student email account ID and password. Exam dates are posted two weeks after start of the semester.

COURSE REQUIREMENTS

SUBJECT AND CONTEXT

The general topic for this course is Polio. We will use both the book “Polio: An American Story” by David Oshinsky and current research to discuss the history and impact of polio worldwide, learn about the development of current vaccines, and explore the future of vaccine development as the global effort to eradicate Polio continues.

GENERAL COURSE EXPECTATIONS

Students are expected to participate in the weekly discussions. Discussion Board participation is worth 20 points for each discussion topic (with the exception of the first Introduction Discussion which is worth 10 points). Each discussion will last two weeks, with the initial post due on the first Friday by **5:00 pm** and a minimum of two responses to peers due on the second Friday by **5:00 pm**. Discussion Board expectations, assignments, and grading rubrics can be found on Canvas.

Each student will complete four Writing Assignments related to the Assigned Readings. Details for each assignment and grading rubrics can be found on Canvas. Writing Assignments are due by **5:00 pm on the due date**. Electronic copies of papers must be submitted to the appropriate assignment dropbox on Canvas.

Students will be grouped into random Peer Review groups. Participation in Peer Review Discussions with quality, substantive feedback is expected and is worth 15 points for each assignment. Peer Review Discussions last one week (Monday through Friday). The initial post to the Peer Review Discussion (with attached draft) is due Monday at **5:00 pm** and critiques of peers’ assignments using the required peer review form are due on Friday at **5:00 pm**.

A Final Project is required (10 pages double spaced), a “Mini-Review” on a topic related to the course topic and discussions. The final paper is worth 100 points. The topic can be anything related to the Assigned Readings and Discussions, but the topic **must be approved by the instructor**. Papers will be due by **5:00 pm on the due date**. Electronic copies of papers must be submitted to the appropriate assignment dropbox on Canvas.

EVALUATION AND GRADING

Grades will be assigned based on student performance on Discussion Boards, Peer Review, Writing Assignments, and the Final Project as outlined in the Rubrics used for grading found on Canvas. All Discussions, Peer Review Discussions, Writing Assignments, and the Final Project will be graded within 5-7 business days following the assignment or discussion deadline.

GRADING SCALE

A	93 -100%
A-	90 - 92%
B+	88 - 89%
B	83 - 87%
B-	80 - 82%
C+	78 - 79%
C	73 - 77%
C-	70 - 72%
D+	68 - 69%
D	63 - 67%
D-	60 - 62%
F	>60%

Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
FAQ Quiz	15															15
Discussion	10	20		20		20		20		20		20		20		150
Peer Review			15			15				15				15		60
Assignments				50			50				50		15			165
Final Project															100	100
Total	25	20	15	70		35	50	20		35	50	20	15	35	100	490

COURSE POLICIES

1) ATTENDANCE:

Class attendance is expected. Regular attendance requires consistent participation in the weekly Discussion Boards and Peer Reviews on Canvas and timely submission of assignments.

2) PREPARATION AND PARTICIPATION:

Students are expected to read the assigned reading material prior to participation in the weekly Discussion Board. Additional independent research and literature review will be required to complete most assignments, including the weekly discussions. Students are also expected to participate in Peer Review by submitting their Writing Assignments and Final projects to their group for feedback as well as critically evaluating and providing substantive feedback to peers.

4) COMMUNICATIONS:

All class material will be made available on Canvas. Questions to the instructor regarding the material are welcome and encouraged. Please post questions that may be of value to all students within the course. Questions or concerns about personal issues or questions about course grades should be directed to the instructor via email. Emails received during the week will be responded to within 24 hours. Emails received on weekends will be responded to the following Monday by 5:00 pm.

Your UMKC email will be used by your instructor for contact. Check your email regularly.

5) LATE WORK:

Late Discussion Board posts or Peer Review Discussion Board posts will not be eligible for credit. Writing Assignments and Final Projects that are turned in late will be docked 50% of the total point value of the assignment if turned in within the first 24 hours and 100% (= no credit) any time after 24 hours. Failure to participate in Peer Review by the provided deadlines will result in a zero score for Peer Review.

STUDENT CONDUCT, CHEATING, AND PLAGIARISM POLICY

All students are expected to be prepared, courteous, and respectful during all interactions in the Canvas course site, both to the instructor and other students. Remember that all interactions in an online classroom are in written form and students are expected to adhere to the general rules of “Netiquette” when communicating with classmates and your instructor. The following are general guidelines:

1. Remember that Discussion Boards are meant to be constructive exchanges of ideas.
2. Keep messages on topic and to the point.
3. Always check your grammar, punctuation, and composition. Take time in crafting posts and responses, as this demonstrates respect for your fellow classmates and readers.
4. Do not post messages in all capital letters, as this can come across as SHOUTING. Also, use **boldface** and *italics* sparingly, as this can be interpreted as sarcasm.
5. Be considerate. Avoid rude, inappropriate, or threatening language, inflammatory responses, and personal attacks.

All assignments will be submitted to TurnItIn. Please use this resource to check yourself for inadvertent plagiarism. Cheating or plagiarism on any written assignment will not be tolerated and will earn a zero grade on that assignment. The general University policy on student conduct may be found at:

https://www.umsystem.edu/ums/rules/collected_rules/programs/ch200/200.010_standard_of_conduct

The Board of Curators of the University of Missouri recognizes that academic honesty is essential for the intellectual life of the University. Faculty members have a special obligation to expect high standards of academic honesty in all student work. Students have a special obligation to adhere to such standards. Academic dishonesty, including cheating, plagiarism or sabotage, is adjudicated through the University of Missouri Student Conduct Code and Rules of Procedures in Student Conduct Matters. Cheating or plagiarism on any coursework or written assignment will not be tolerated and will earn a zero grade on that exam/quiz/assignment. The UMKC policy may be found at: http://www.umkc.edu/catalog/Student_Conduct.html.

ACADEMIC INQUIRY, COURSE DISCUSSION, AND PRIVACY:

There will be **no photography or video or audio recording of Zoom meetings, course material posted on Canvas, etc. without the written consent of the instructor**. Students do not have permission to post any course material (content posted in Canvas, course discussions, quizzes, exams, etc.) to any third-party site. Posting of material to a third-party site is a violation of the student code of conduct and will be reported to the Academic Integrity Officer.

University of Missouri System Executive Order No. 38 lays out principles regarding the sanctity of classroom discussions at the university. The policy is described fully in [Section 200.015 of the Collected Rules and Regulations](#). In this class, students may not make any audio or video recordings of course activity (including those recordings prepared by an instructor), except students permitted to record as an accommodation under Section 240.040 of the Collected Rules. All other students who record and/or distribute audio or video recordings of class activity are subject to discipline in accordance with provisions of Section 200.020 of the Collected Rules and Regulations of the University of Missouri pertaining to student conduct matters.

Those students who have written permission from the course instructor to record are not permitted to redistribute any audio or video recordings of statements or comments from the course to individuals who are not students in the course without the express permission of the faculty member and of any students who are recorded, including those recordings prepared by an instructor. Students found to have violated this policy are subject to discipline in accordance with provisions of Section 200.020 of the Collected Rules and Regulations of the University of Missouri pertaining to student conduct matters.

ASSIGNMENT GRADE DISPUTES

Questions regarding grading must be submitted to the course instructor, in writing, within 3 days from when the assignment was returned. When submitting grade disputes, please be sure to include the following:

1. Name (first and last) of student submitting the grade dispute.
2. The original assignment and grading rubric with the disputed criteria highlighted or prominently circled.
3. A written/typed description specifically describing why your assignment needs to be re-evaluated (i.e. "...points for assignment were miscalculated," "additional points for criteria XX in the rubric should be awarded because..." etc.).

Grade disputes not following the above guidelines will not be evaluated.

SBC GRADE APPEAL POLICY

Students are responsible for meeting the standards of academic performance established for each course in which they are enrolled. The establishment of the criteria for grades and the evaluation of student academic performance are the responsibilities of the instructor. The grade appeal procedure is available only for review of allegedly capricious grading and not for review of the instructor's evaluation of the student's academic performance.

Capricious grading, as that term is used here, comprises any of the following:

- The assignment of a grade to a particular student on some basis other than the performance in the course.
- The assignment of a grade to a particular student according to more exacting or demanding standards than were applied to other students in the course; (Note: Additional or different grading criteria may be applied to graduate students enrolled for graduate credit in 300- and 400-level courses.)
- The assignment of a grade by a substantial departure from the instructor's previously announced standards.
- If a student wishes to appeal their grade, the student should first discuss the issue fully with the instructor of the course. If the issue is not resolved with informal discussion, the student may appeal the grade to the course coordinator by the submission of a [SBC Grade Appeal Form](#). This must be done after the instructor submits grades to the Registrar and before the end of the sixth week in the succeeding regular academic semester. If the matter is not resolved satisfactorily for the student, further review is through the Division Head for Molecular Biology & Biochemistry, Dr. Anthony Persechini, persechinia@umkc.edu, BSB 501. Following the Division review, the student may appeal to the Dean of the SBS. Following the Dean's review, the student may appeal to the Provost, or their designee. The decision of the Provost Office is final. The [UMKC grade appeal policy](#) is at available at the Provosts web site.

COVID-19 ACADEMIC ACCOMMODATIONS

If you are diagnosed with COVID-19, are required to self-isolate because you may have come in contact with someone who has COVID-19, or are at high-risk of severe illness from COVID-19, you should seek academic accommodations. Those at high-risk of severe illness from COVID-19 are people: aged 65 years and older, or living in a nursing home or long-term care facility, or with chronic lung disease or moderate to severe asthma, or who have serious heart conditions, or who are immunocompromised, or with severe obesity (body mass index [BMI] ≥ 40), or with diabetes, or with chronic kidney disease undergoing dialysis or people with liver disease. It is especially important to seek accommodations if any of these conditions are not well controlled. Student Disability Services requires medical documentation of the condition and recommendations for accommodations from a qualified medical professional. Once you have the documentation please contact Scott Laurent at (816) 235-5696 or by email at laurentr@umkc.edu. We will then schedule a Zoom meeting to complete the accommodation plan.

ADDITIONAL RESOURCES AND POLICIES

Important UMKC Resources and Policies are applicable to every course and every student at UMKC. These are located in the Canvas site for this course under the "UMKC Policies" tab. As a UMKC student, you are expected to review and abide by these policies. If you have any questions, please contact your instructor for clarification. This course follows the "Faculty not allowing recording" option of the Academic Inquiry, Course Discussion and

Privacy policy. Additional University Resources and Policies can be accessed under the “UMKC Policies” tab within Canvas:

1. UMKC Connect
2. Academic Calendar
3. Academic Honesty
4. Academic Inquiry, Course Discussion and Privacy
5. Attendance Policy
6. Campus Safety
7. Counseling and Health Services Available at UMKC
8. Disability Support Services
9. English Proficiency Statement
10. Grade Appeal Policy
11. Discrimination Grievance Procedures for Students
12. Privacy and Accessibility Policies
13. Statement of Human Rights
14. Title IX

Biology 498WI: Critical Analysis of Biological Issues Reading Assignments and Assignment Deadlines, Spring 2021

We will read the book “Polio: An American Story” by David Oshinsky in addition to current reviews of research and primary research literature. PDF files of Supplemental Readings will be provided in Canvas.

BOOK: Polio: An American Story by David M. Oshinsky
ISBN: 0195307143
ISBN-13: 9780195307146

Tentative Schedule*

*subject to change

Week	Required Reading	Topic	Assignment
1	Syllabus Introductions Discussion Board 1 Ch. 1	Course Introductions Introduction The First Epidemics	Introduction Discussion Board (DB) Post Due FAQ Quiz DB1 Begins (DB 1 Initial Post Due)
2	Ch. 1 DB 1	The First Epidemics	DB 1 Concludes (Responses to classmates Due)
3	Ch. 2, 3, & 4 DB 2 Peer Review 1 DB	Warm Springs “Cripples’ Money” “And They Shall Walk”	DB 2 Begins Peer Review 1 (Drafts posted Monday and Reviews Due Friday)
4	DB 2		DB 2 Concludes Assignment #1 Due
5	Ch. 5, 6, & 7 DB 3	Poster Children, Marching Mothers The Apprenticeship of Jonas Salk Pathway to a Vaccine	DB 3 Begins
6	DB 3 Peer Review 2 DB		DB 3 Concludes Peer Review 2 (Drafts posted Monday and Reviews Due Friday)
7	Ch. 8, 9, & 10 DB 4	The Starting Line Seeing Beyond the Microscope “Plague Season”	DB 4 Begins Assignment #2 Due

8	DB 4		DB 4 Concludes
9	Ch. 11, 12, & 13 DB 5	The Rivals “The Biggest Public Health Experiment Ever” The Cutter Fiasco	DB 5 Begins
10	DB 5 Peer Review 3 DB		DB 5 Concludes Peer Review 3 (Drafts posted Monday and Reviews Due Friday)
11	Ch. 14, 15, & 16 DB 6	Mission to Moscow Sabin Sundays Celebrities and Survivors	DB 6 Begins Assignment #3 Due
12	DB 6		DB 6 Concludes
13	DB 7	TBA on Canvas	DB 7 Begins Assignment #4 (Outline) Due
14	DB 7 Peer Review		DB 7 Concludes Peer Review Final Project (Drafts posted Monday and Reviews Due Friday)
15		Final Project	Final Project Due