

### Instructor Information

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### Description

Critical analysis of current life sciences research through online discussions of research seminars and peer reviewed scientific publications.

### Website

Access this course website through UF e-Learning Services (<https://lss.at.ufl.edu/>). Log in using your Gatorlink username and password. The software used to host the website is "Sakai".

### Required Materials

Reliable internet access that will allow you to complete and submit assignments on time. Microphone and camera for recording presentations and attending office hours by Skype. Appropriate software including Microsoft Office.

### Course Format

The class will be divided into groups of approximately 6 people, and involves intensive online group interaction. For each of the 10 modules in this course, you will read a peer-reviewed journal article, watch a research seminar online, participate in a *Virtual Experience Interactive Learning Simulations* (VEILS) program, or take the online Biology Major Field Test.

### Student Conduct & Effective Participation in Discussions

The purpose of this course is to give you opportunities to engage in scientific discussion, which are necessary components of scientific thinking and discourse. You may find yourself in debates with your peers, which is ok and an indication that you are thinking critically about yours and others' claims. In order to maintain a culture of respect in our course, please follow two basic guidelines. First, back up your claims with evidence and/or scientific explanation. Second, keep the discussion about the scientific ideas put forth, not about the people presenting them. Offensive comments will not be tolerated in this course. In order for you to get the most out of these interactions and have your grade reflect active participation, you should follow these basic strategies for success in this course:

1. Enter all the deadlines (including times) on your personal calendar. Late work will only be accepted at the discretion of the instructor and will never be accepted without penalty.
2. Read the article/watch the seminar early in the module and post a well-written summary in the "Discussion" section of Sakai. You may want to take notes while reading articles/watching seminars.
3. Check the discussion board for the current module at least every other day and respond promptly to comments made on your posts.
4. When discussing an article or seminar, make connections between its content and your real life. The point of the discussions is to share what you think. These discussions are meant to be casual and thought-provoking. If you find a website that relates to the topic, share it. If you have a funny story that relates, tell it. If learning from previous courses comes to mind on a topic, share it. Do not be afraid to go outside of the context of the article/seminar to have an authentic discussion on its importance and relevance to your life.
5. Make your comments to your peers' discussion posts about the science and their ideas, not the quality of writing. Be assertive in your posts and share your original thoughts. If the sum of your posts amounts to you agreeing with your group mates' or other scientists' claims and not stating anything unique, you should not expect to receive full credit.
6. Remember that your interactions are meant to be *discussions*, not statements. Therefore, there should be substantial back-and-forth between group members over the course of every module. In other words, do not simply state what you think but respond to what others think.
7. When discussing scientific topics, it is inevitable that someone will make a comment that reflects a misconception about a scientific principle. When this happens it is the responsibility of the group to correct the misstatement while still maintaining a respectful conversation so that the discussion can continue productively.

### Course Activities

Ice-Breaker: Occurs during the first week of the course.

Schedule a day and time for the online proctored Biology Major Field Test: Scheduling occurs the week of March 7. The test may be taken from March 21 through April 20. Please do not miss your scheduled test time. The course fee pays for only one scheduled time, if you miss the scheduled time the university will be charged and you will forfeit the fees that were paid for that appointment. To reschedule a forfeited appointment you will need to make arrangements with the proctoring agency to pay with your own credit card.

Quizzes: Quizzes for Modules 1, 6, 7, and 9 are administered through the "Quizzes" section of Sakai. All quizzes are timed and have the "force completion" function turned on, you may not return to the quiz after it times out. The Module 1 Syllabus Quiz should be easy

because you are allowed have access to the syllabus while taking the quiz. The Module 1 Ethics Pre-Quiz is easy in that it is not graded; you receive 10 points for satisfactorily answering all the questions to the best of your ability. Failure to take the Ethics Pre-Quiz will result in the assignment of 0 points. The Module 9 quiz is based upon the online interactive video training on ethics in research. Quizzes for Modules 6 and 7 are difficult because it is assumed that you will have a copy of the paper and/or notes from the seminar available during the quiz.

Quizzes	Comments
Module 1- Syllabus	Easy. You have access to the syllabus while taking it
Module 1- Ethics Pre-Quiz	Easy. If completed you receive 10pts, incomplete receives 0 pts
Module 6	Difficult. Personal notes needed, preparation necessary
Module 7	Difficult. Personal notes needed, preparation necessary
Module 9	Difficult. Based on the online interactive video training on ethics in research

Discussion: Points for discussion are awarded in Modules 1, 2, 3, 4, 5, 6, 7, 8, and 9. Discussions normally occur in the “Discussions” portion of Sakai. Discussions are graded using a rubric along with a minimum number of posts and a minimum frequency. For example, many discussions require that three posts be made over a minimum of three days, which means you can’t expect to receive full points by making three comments on the last day. Please see the examples in “Resources”.

Resources: Copies of research papers, or links to research seminars are found in the “Resources” section of Sakai.

Summaries: Summaries for Modules 3 and 4 are submitted to the “Discussion” section of Sakai. Please see the examples in “Resources”.

PowerPoint Presentation: A PowerPoint presentation with embedded audio based upon a research article or seminar is to be posted in the Module 5 “Discussion” section of Sakai. The required length is at least 5 minutes; it may be no longer than 6 minutes. The presentation must have at least 10 slides including the title slide, but no more than 15. The first slide must be the **Title** slide with your name, academic major, date and a unique title that is not identical to the paper or seminar. The second slide must be the **Introduction** slide that contains the main point or the purpose of your short presentation. I expect that you will select from the paper or seminar one non-trivial main point or purpose that you want to discuss; you are not expected to discuss the entire paper or seminar. You should include a statement in the **Introduction** slide that explains why you think the point or purpose is important. If you need more room to prevent crowding you may use one extra continuation **Introduction** slide. Your next slide will be the **Methods** slide where you briefly describe how the data were obtained. You may use one extra continuation **Methods** slide if needed. Your next slide will be the **Results and Discussion** slide where you present and discuss only the data that are related to your specific main point or purpose; do not present data from the paper or seminar that have no bearing on your main point. You may use clips of tables and figures from the paper or seminar as long as you include figure captions and/or table titles. Each clip must include the reference from where it was taken using the name-year format (Smith D., 1985); where Smith is the last name of the first author, D. is the initial of the first name of the first author, and 1985 is the year when the journal was published. You may use more than one extra continuation **Results and Discussion** slide as needed; make sure you don’t exceed a maximum of 15 slides. Your next slide should be the **Summary** slide where you 1) summarize your discussion, and 2) describe future work that could be done to improve or extend the study. The final slide should be the **Literature Cited** slide that includes the complete reference for the paper or seminar using the "name-year" system for citations found here <http://writing.wisc.edu/Handbook/DocCSE.html>).

Peer Reviews: Critiques of your fellow students’ summaries and PowerPoint presentations are called “peer reviews” and are included in Modules 3, 4, and 5 are posted in the “Discussion” section of Sakai. Satisfactory peer reviews must include constructive criticism about what can be improved. Please see the examples in “Resources”.

Responses to Reviews: Responses to peer reviews for Modules 3, 4, and 5 are posted in the “Discussion” section of Sakai. Satisfactory response to your peers’ critique should include why or why not the critique was valid, and your correction if needed. Please see the examples in “Resources”.

Group Papers: Group papers will be written for Modules 2 and 8. Members of each group collaborate in the writing of papers on an assigned article or seminar using the “Wiki” section of Sakai. The wiki tool allows me to compare and evaluate the contributions of each group member and award appropriate points. The draft and final versions in Microsoft Word format of the paper are submitted by one group member via the “Assignments” portion of Sakai. Each group member will receive the same grade unless a group member did not participate in the writing of the paper as documented using the “History” function of the Wiki tool. Please see the examples in “Resources”.

National Biology Major Field Test: This is a 2-hour online test given online with online proctoring. The test is written by the Educational Testing Service (ETS), which is the same company that administers many of the standardized exams that you are familiar with: SAT, GRE, etc. The University of Florida uses the results to assess student learning outcomes. The exam covers four major areas of biology: 1) cell

biology, 2) molecular biology and genetics, 3) organismal biology and, 4) population biology, evolution and ecology. The test covers much of what you have learned over the course of your studies in biology. Although you do not need to study for the exam, you may benefit from reviewing your introductory biology text. Points awarded for your score on the exam will be based on your percentile score not the “raw” score (see the table below). Your percentile score is similar to a “ranking” that allows you to compare yourself with other senior biology students across the country. If you score well, your score should be included on your curriculum vita or resume to indicate how you compare to other applicants (for jobs, graduate school, etc.) who have the same degree as you. It is in your best interest to try to do well on this exam. You will receive an email from the proctoring agency during the week of March 7 providing information on how to register to take the exam. Please use the following link to obtain more information. <https://www.ets.org/mft/about/content/biology>  
The field test is worth up to 40 points. Points are awarded based upon your percentile score as determined by ETS, Inc.

Percentile Score	Points Awarded
90 - 100	40
80 - 89	36
70 - 79	32
60 - 69	28
50 - 59	24
40 - 49	20
30 - 39	16
20 - 29	12
10 - 19	8
0 - 9	4
Not taken	0

Research Papers and Seminars: Research Papers and seminars are stored or referenced in the “Resources” section of Sakai.

Grades: A total of 245 points are possible in the course.

Changes to Course or Syllabus: The instructor reserves the right to make changes to the course, schedule and this syllabus. If changes are planned, students will be informed using Sakai email and a revised syllabus will be posted.

Email Communication with Instructor: It is best to use **Sakai email** for communication with the instructor. Use the appropriate Sakai functions for class activities and submission of assignments. Please do not send assignments as attachments to email unless requested by the instructor.

Honesty Policy: All students registered at the University of Florida have agreed to comply with the following statement: “I understand that the University of Florida expects its students to be honest in all their academic work. I agree to adhere to this commitment to academic honesty and understand that my failure to comply with this commitment may result in disciplinary action up to and including expulsion from the University.” In addition, on all work submitted for credit the following pledge is either required or implied: “*On my honor I have neither given nor received unauthorized aid in doing this assignment.*” If you witness any instances of academic dishonesty in this class, please notify the instructor or contact the Student Honor Court (392-1631) or Cheating Hotline (392-6999). For additional information on Academic Honesty, please refer to the University of Florida Academic Honesty Guidelines at <http://www.dso.ufl.edu/judicial/procedures/academicguide.html>.

UF Counseling Services: Resources are available on-campus for students having personal problems or lacking clear career and academic goals. The resources include:

1. UF Counseling & Wellness Center, 3190 Radio Rd, 392-1575, psychological and psychiatric services.
2. Career Resource Center, Reitz Union, 392-1601, career and job search services.
3. Many students experience test anxiety and other stress related problems. “A Self Help Guide for Students” is available through the Counseling Center (301 Peabody Hall, 392-1575) and at their web site: <http://www.counsel.ufl.edu/>.

Accommodation for Students with Disabilities: Students who will require a classroom accommodation for a disability must contact the Dean of Students Office of Disability Resources, in Peabody 202 (phone: 352-392-1261). Please see the University of Florida Disability Resources website for more information at: <http://www.dso.ufl.edu/drp/services/>. It is the policy of the University of Florida that the student, not the instructor, is responsible for arranging accommodations when needed. Once notification is complete, the Dean of Students Office of Disability Resources will work with the instructor to accommodate the student.

**Software Use:** All faculty, staff and student of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate.

**Final Grades:** Final grades are determined by the percentage of total points that a student receives according to the following table.

Percentage	Letter Grade	GPA equivalent
≥ 90.00	A	4.0
86.7 – 89.9	A-	3.67
83.3 – 86.6	B+	3.33
80.0 – 83.2	B	3.0
76.7 – 79.9	B-	2.67
73.3 – 76.6	C+	2.33
70.0 – 73.2	C	2.0
66.7 – 69.9	C-	1.67
63.3 – 66.6	D+	1.33
60.0 – 63.2	D	1.0
56.7 – 59.9	D-	0.67
< 56.7	E	0

For more information on grades and grading policies, please visit:  
<http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html>

**Summary of Activities, Points and Due Dates for BSC 4936 ( 2 credits) Critical Analysis of Biological Research: Spring 2016**

*This course is online therefore, activities, assignments, assessments or due dates may fall on weekends.*

**Modules Schedule**

Length (days)	Begin	End	Activities	Points	Due Date 11:55PM	Notes
<b>Module 1: Introductions (30 pts.)</b>						
7	5-Jan	12-Jan	Read syllabus <b>(S)*</b> begin discussion <b>(D)</b>	0	5-Jan	Read and discuss the syllabus. To receive the full 5 points for discussion you must make at least two non-trivial comments over at least two days. Ice-breaker activity is located in "Discussions". Quizzes are located in "Quizzes" and are only open for 1 day.
			Ice-breaker Introduction <b>(D)</b>	5	12-Jan	
			Conclude discussion of syllabus	5	12-Jan	
			Take Quiz 1 on syllabus <b>(Q)</b>	10	12-Jan	
			Take Ethics Pre-Quiz <b>(Q)</b>	10	12-Jan	
<b>Module 2: Collaborate to Write a Group Paper (30 pts.)</b>						
13	13-Jan	26-Jan	Watch seminar <b>(R)</b> begin discussion <b>(D)</b> begin individual contributions to group paper <b>(W)**</b>	0	13-Jan	Make sure you have access to the long version of the seminar, not the 10 minute version. You will need to sign on through a UF server. If you are off campus you may need to use a VPN. Contact the UF Help Desk for details. <b>Discussion:</b> To receive the full five points for discussion you must make at least three non-trivial comments over at least three days. Please see "Resources" for examples of non-trivial comments. You can't make the three comments in only one day. Post your comments in "Discussions". <b>Group Paper:</b> Compose your paper in the "Wiki" tool. There are two types of grades. Group grades are given for the paper and its revision where each member receives the same grade (members who do not participate in the writing receive a zero). Individual grades are given for discussions based upon quality and quantity of participation recorded in "Discussions". Individual grades are given for contributions to group paper using the quality and quantity of contributions recorded in the "History" portion of the "Wiki" tool. If members don't contribute to the writing of the paper they receive zero points. <b>The paper must be written and edited within the course "Wiki". After the group is satisfied that paper is ready for submission one member saves the paper in a Word format and checks that formatting has been preserved and submits for their group in "Assignments". Detailed instructions for the paper are found in the Module 2 Draft Group Paper Wiki.</b>
			Conclude discussion of paper <b>(D)**</b>	5	17-Jan	
			Conclude individual contributions to group paper <b>(W)**</b>	5	19-Jan	
			Submit draft group paper for grading <b>(A)</b>	5	19-Jan	
			Receive instructor's comments begin discussion of instructor's comments <b>(D)**</b> begin individual contributions to revised group paper <b>(W)**</b>	0	24-Jan	
			Conclude discussion of instructor's comments <b>(D)**</b>	5	26-Jan	
			Conclude individual contributions to revision of group paper <b>(W)**</b>	5	26-Jan	
			Submit revised group paper for grading <b>(A)</b>	5	26-Jan	
<b>Module 3: Summarize and Critique a Published Research Paper (20 pts.)</b>						
10	27-Jan	6-Feb	Read paper <b>(R)</b> and begin discussion <b>(D)</b>	0	27-Jan	To receive the full five points for discussion you must make at least
			Conclude discussion <b>(D)</b>	5	31-Jan	

			Post your summary of the paper (D)	5	1-Feb	three non-trivial comments over at least three days. You can't make the three comments in only one day. You are graded on the quality of your own summary, the quality of the critique you write for one of your peers, and the quality of the response you write to a peer's review of your summary. <u>You may not write a critique for a peer that already has been critiqued.</u> <u>You must select a peer that has not been reviewed, and you may not critique the person who critiqued you.</u> <u>Please alert one of the instructors if you do not receive a critique. Make sure each group member receives a peer review, even if it means someone does two reviews. Groups where not all members received a review will be penalized 1 point.</u>
			Peer-review a group member's summary (D)	5	3-Feb	
			Respond to a peer review (D)	5	6-Feb	
<b>Module 4: Summarize and Critique a Published Research Paper (20 pts.)</b>						
10	7-Feb	17-Feb	Watch research seminar (R) begin discussion (D)	0	7-Feb	To receive the full five points for discussion you must make at least three non-trivial comments over at least three days. You can't make the three comments in only one day. You are graded on the quality of your own summary, the quality of the critique you write for one of your peers, and the quality of the response you write to a peer's review of your summary. <u>You may not write a critique for a peer that already has been critiqued.</u> <u>You must select a peer that has not been reviewed, and you may not critique the person who critiqued you.</u> <u>Please alert one of the instructors if you do not receive a critique. Make sure each group member receives a peer review, even if it means someone does two reviews. Groups where not all members received a review will be penalized 1 point.</u>
			Conclude discussion (D)	5	11-Feb	
			Post your summary of research seminar (D)	5	12-Feb	
			Peer-review a group member's summary (D)	5	14-Feb	
			Respond to a peer review (D)	5	17-Feb	
<b>Module 5: Present a Peer-reviewed Article using PowerPoint (25 pts.)</b>						
8	18-Feb	26-Feb	Read article (R) begin discussion (D) begin PowerPoint composition	0	18-Feb	In this module you will discuss a research article and prepare a PowerPoint presentation with audio, provide a critique, and then respond to a critique. Please follow detailed instructions in the narrative portion of the syllabus for preparation of the PowerPoint presentation. <u>You may</u>
			Conclude discussion (D)	5	22-Feb	
			Post PowerPoint Presentation (D)	10	24-Feb	
			Peer-review a PowerPoint presentation (D)	5	25-Feb	

			Respond to a peer review of your presentation (D)	5	26-Feb	not write a critique for a peer that already has been critiqued. You must select a peer that has not been reviewed, and you may not critique the person who critiqued you. Please alert one of the instructors if you do not receive a critique. The day after the PPT due date I will check for automatic function. If your PPT fails, I will deduct 1 point (10%) from your final score and require that you resubmit the PPT. Make sure that the PPT plays correctly on a PC machine if you compose it on a Mac. Make sure each group member receives a peer review, even if it means someone does to reviews. Groups where not all members received a review will be penalized 1 point.
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**Module 6: Analyze a Published Research Paper (20 pts.)**

6	7-Mar	13-Mar	Read the research paper (R) begin discussion (D)	0	7-Mar	To receive the full five points for discussion you must make at least three non-trivial comments over at least three days. You can't make the three comments in only one day. The quiz is difficult and requires that you understand the article. You may use notes.
			Conclude discussion (D)	5	11-Mar	
			Take quiz (Q)	10	13-Mar	
			Schedule Proctored Online Major Field Test (On or about March 11 you will receive an email to your UF address describing how to schedule the test.)	5	13-Mar	

**Module 7: Analyze a Professional Seminar (15 pts.)**

6	14-Mar	20-Mar	Watch seminar (R) begin discussion (D)	0	14-Mar	To receive the full five points for discussion you must make at least three non-trivial comments over at least three days. You can't make the three comments in only one day. The quiz is difficult and requires that you take notes during the seminar. You may use notes during the quiz.
			Conclude discussion (D)	5	18-Mar	
			Take quiz (Q)	10	20-Mar	

**Module 8: Collaborate to Write a Group Paper (30 pts.)**

15	21-Mar	5-Apr	Read paper (R) begin discussion (D)	0	21-Mar	<p><b>Discussion:</b> To receive the full five points for discussion you must make at least three non-trivial comments over at least three days. Please see "Resources" for examples of non-trivial comments. You can't make the three comments in only one day. Post your comments in "Discussions".</p> <p><b>Group Paper:</b> Compose your paper in the "Wiki" tool. There are two types of grades. Group grades are given for the paper and its revision where each member receives the same grade (members who do not participate in the writing receive a zero). Individual grades are given for discussions based upon quality and quantity of participation recorded in "Discussions". Individual grades are</p>
			Conclude discussion (D)**	5	25-Mar	
			Conclude Individual contributions to group paper (D)**	5	26-Mar	
			Submit group paper for grading (A)	5	26-Mar	
			Receive instructor's comments begin discussion of instructor's comments (D)** begin individual contributions to revised group paper (W)**	0	3-Apr	
			Conclude discussion of instructor's comments (D)**	5	5-Apr	
			Conclude individual contributions to revision of group paper (D)**	5	5-Apr	
			Submit revised group paper for grading (A)	5	5-Apr	

						given for contributions to group paper using the quality and quantity of contributions recorded in the "History" portion of the "Wiki" tool. If members don't contribute to the writing of the paper they receive zero points. The paper must be written and edited within the course "Wiki". After the group is satisfied that paper is ready for submission one member saves the paper in a Word format and checks that formatting has been preserved and submits for their group in "Assignments". Detailed instructions for the paper are found in the Module 8 Draft Group Paper Wiki.
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**Module 9: Ethics in Research (30 pts.)**

7	6-Apr	13-Apr	Read instructions for this case study <b>(R)</b> begin discussion <b>(D)</b>	0	6-Apr	To receive the full 10 points for discussion you must make at least six non-trivial comments over at least six days. You can't make the six comments in only one day. Carefully participate in the multiple-pathway video and study the ethics tutorial on the home page of the website that sponsors the video. Focus most of your time on Kim Park's character. The discussion is worth 10 points, the quiz is difficult and worth 20 points. You will not do well on the quiz unless you spend time going through the ethics tutorial a couple of times. Points awarded for discussion require consistent posting of high quality comments. Students who post thoughtful, analytical, and self-reflective discussions will receive the most points.
			Begin review of ethics tutorial on "The Lab" homepage <b>(R)</b>	0	6-Apr	
			Conclude discussion <b>(D)</b>	10	13-Apr	
			Take a quiz on the case study <b>(Q)</b>	20	13-Apr	

**Module 10: Take a Standardized Exam (30 pts.)**

30	21-Mar	20-Apr	Biology Major Field Test	30	20-Apr	The test is given online with online proctoring. You may take the test anywhere approved by the proctoring service. During the week of March 7 you will receive an email from the proctoring agency sent to your UF email address with details on how to schedule the test. The test is worth up to 40 points, depending upon your percentile score***. Please do not miss your scheduled test time. <b>The course fee pays for only one scheduled time, if you miss the scheduled time UF will be charged an you will need to pay to reschedule the proctoring and the online test with your own credit card.</b>
			<b>Total Points</b>	<b>245</b>		

**If the contents and dates of this schedule change students will be informed using the Sakai course email service for this course.**

\* Indicates location within Sakai: **S**=Syllabus; **R**=Resources; **D**=Discussions; **A**=Assignments; **Q**=Quizzes; **W**=Wiki

\*\* Indicates grading on group papers where individual group members may receive different scores based upon participation in discussion and collaborative writing. Evaluation is done using the "Discussions", and "History" function of the Wiki tool.

\*\*\*Percentile score is determined by ETS, Inc. using the total score. [http://www.ets.org/understanding\\_testing/glossary/](http://www.ets.org/understanding_testing/glossary/) Look-up percentile. [https://www.ets.org/s/mft/pdf/acdg\\_biology.pdf](https://www.ets.org/s/mft/pdf/acdg_biology.pdf) See page 6. At the conclusion of the test you will be presented a grade sheet that you can save or print.



Percentile Score***	Points Awarded				
90 - 100	40				
80 - 89	36				
70 - 79	32				
60 - 69	28				
50 - 59	24				
40 - 49	20				
30 - 39	16				
20 - 29	12				
10---19	8				
0 - 9	4				
Not taken	0				