GEN 4930 CK^2 Genetics Senior Seminar– Spring 2019 (S1901-GEN-4930-003)

2:00 pm - 4:00 pm, Tuesday, Poole Agricultural Center A104

INSTRUCTOR:
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OFFICE HOUR:

By appointment. You may schedule an appointment after class or email to set up an appointment in my office.

ACADEMIC INTEGRITY:

As members of the Clemson University Community, we have inherited Thomas Green Clemson's vision of this Institution as a "high seminary of learning". Fundamental to this vision is a mutual commitment to truthfulness, honor, and responsibility, without which we cannot earn the trust and respect of others. Furthermore, we recognize that academic dishonest detracts from the value of a Clemson degree. Therefore, we shall not tolerant lying, cheating, or stealing in any form.

When, in the opinion of a Faculty member, there is evidence that a student has committed an act of academic dishonesty, the Faculty member shall make a formal written charge of academic dishonesty, including a description of the misconduct, to the Associate Dean of Undergraduate Services. At the same time, the Faculty member may, but is not required to, inform each involved student privately of the nature of the alleged charge.

Critical Thinking Student Learning Outcomes

This class is a Clemson Thinks^2 (CT^2) seminar –developed to increase and enhance your critical thinking skills.

(1) Explore complex challenges associated with sustainable landscape design, installation and maintenance.
(2) Analyze sustainable design problems using multiple lenses and perspectives.
(3) Extrapolate from one conceptual context to others in the sustainable landscape.
(4) Develop creative solutions to complex challenges.
(5) Communicate complex ideas effectively.

OBJECTIVES:

This course is envisioned as a finishing course for professional scientists. The dissemination of information to the scientific community is an important aspect of research. It is imperative that scientists be able to critically analyze their own results and those of others, but also to give cohesive presentations on their own research. The objectives of this course are three-fold: 1) to learn to critically read and evaluate scientific literature; 2) to learn to give a well-organized scientific presentation; 3) to gain further experience in scientific writing; and enforce critical thinking skills.

The course will start by the instructor to provide information/instruction on critical reading and evaluation of scientific literature, scientific writing and plagiarism, and presentation skills. Individual presentations, summaries and discussions of research articles will then be arranged for all the students in the class.

SUGGESTED TEXTS:

There are two required texts for this class. Both are short paperbacks and are available at the CU Bookstore or may be purchased at www.pearsonhighered.com.

1) "What Every Student Should Know About Avoiding Plagiarism"
   Linda Stern, author
   Publisher: Pearson Education
   ISBN: 0-321-44689-5
   Suggested retail price $8.40
2) "Reading Primary Literature: A Practical Guide to Evaluating Research Articles in Biology"
   Christopher Gillen, author
   Publisher: Benjamin Cummings
   ISBN: 0-8053-4599-X
   Suggested retail price $12.00

RESEARCH ARTICLES:

Each section of the course will be organized around a general theme. The articles have been selected from journals relevant to the field. The research articles as well as other course materials (syllabus, presentation schedule, etc.) will be posted on Blackboard.

ATTENDANCE:

Attendance is mandatory. There will be a reduction of one letter grade for unexcused absences. Excuses for missing class or leaving early must be approved by the instructor prior to class. In the case of illness, a receipt from Redfern is required for an excused absence.

PRESENTATION SCHEDULE:

The schedule of presentations will be determined the first day of class and will be posted. You need to write summaries on the articles you present in class, which will be due one week after your presentation.

COURSE GRADING:

Item	**Points**	**Percentage**
Pre-on-line CK test	100	5%
Presentation	2 x 100	30%
Summary	2 x 100	30%
Attendance	100	5%
Participation/questions	100	10%
Post-on-line CK test	100	5%
Global engagement	100	10%
G&B departmental seminar essay		5%

PRESENTATIONS:

Each student will give one seminar in which s/he will present a scientific article selected by the instructor, and will then answer questions in the subsequent class discussion of those articles. The presentations are expected to be 45 - 55 minutes each. The presentation will have three main parts: an introduction, analysis of experimental results, and discussion of the research overall, including additional insights and future directions of the research.

Presenters are expected to do appropriate background reading required to understand the article to be presented and provide an appropriate introduction on the topic, including background information and the purpose of the research in the article presented. This will need the presenter not only read and understand the assigned paper, but also search for more information from the previously published literatures that report related research. The goal is to make the audience understand the research subject and the importance of the presented work and therefore, be interested in learning more about the discoveries on the topic. The

students are encouraged to consult with the instructor as they research their articles and prepare their presentation.

A hardcopy of the presentation (in PowerPoint handout form with 3-4 slides per page) should be turned in to the instructor on the day of the presentation. This allows the instructor to make notes on the technical aspects of slides as well as the presentation overall. There will be a reduction of 10 points for not handing in the hardcopy of the presentation.

Presentation Items		Points
Category	Scoring criteria	
Organization (20 points)	Background information is relevant and prepares audience well for understanding the rest of the presentation	10
	Information is presented in a logical sequence.	10
Content (35 points)	Introduction is attention-getting, lays out the problem well, and establishes a framework for the rest of the presentation.	5
	Technical terms are well-defined in language appropriate for the targeted audience.	5
	Presentation contains accurate information.	10
	Appropriate amount of materials is prepared, and points made reflect well their relative importance.	10
	There is an obvious conclusion summarizing the presentation.	5
Presentation (30 points)	Speaker maintains good eye contact with the audience and is appropriately animated (e.g. gestures, moving around, etc.)	5
	Speaker uses a clear, audible voice.	5
	Delivery is poised, controlled, and smooth.	5
	Visual aids are well prepared, informative, effective, and attractive.	10
	Length of presentation is within the assigned time limits	5
Answering questions (15 points)	Engage the audience	5
	Show knowledge about the subject.	5
	Information is well communicated	5
	Total	100

SUMMARY:

Each student will write a summary of 3-4 pages (double spaced, 12 point font, 1" margins) for the article they present. Both a hard copy and an electronic copy of each summary are due in class one week after the presentation. Figures are not allowed, and the summaries should describe the experiments, the results, and the conclusions drawn without reference to specific figures. Students are required to write the summary in their own words without copying or only slightly modifying sentences/paragraphs from the article they are writing about. A list of references used in preparing presentation should be included, which does not count towards the 3-4 pages of the summary. Students will be graded on how well they summarize the paper, as well as the quality of their writing (see rubrics below). Plagiarism will result in an F for the assignment. Plagiarism on more than one assignment will result in an F for the course.

Students will have the opportunity to revise their written work based on the instructor' comments. Revisions will be due one week after the graded assignment is returned to them. Students may raise the grade by one full letter through revision (max 10 points); however, only one revision will be allowed on each assignment.

Late assignments will be penalized one letter grade and revised work will still carry the one letter grade penalty.

Summary Items	Points
Background and rationale for the research	10
Objectives	10
Rationale	10
Methods	10
Results	10
Conclusions	10
Discussion (incorporate classroom discussion): possible future avenues, weaknesses/disputes, alternate methodology/interpretation of data	25
Quality of writing (spelling, grammar)	10
Formatting (3-4 pages, double spaced, 12 point font, 1" margins)	5
Total	100

PARTICIPATION AND QUESTIONS:

Students are required to read each article prior to the presentation and discussion. Before each seminar, students will prepare a list of questions (see below, three questions least) regarding the readings and turn in **one typed copy with your name**

to the instructor, on the day of the seminar. These questions should enhance the discussion of the article. Five points will be deducted for each late question sheet. There will be a reduction of 10 points for not handing in the hardcopy of the question sheet.

1. In your opinion, what matters require additional clarification?
2. What flaws in the logic or incomplete experiments did you identify?
3. Provide the reasons you found this article interesting or uninteresting?

EVALUATION:

Each student will be required to fill out an evaluation form (see supplemental forms) for each presentation. Presenters must make an appointment with the instructor to meet within one week of the presentation to discuss the evaluations. The instructor will provide a summary of the student evaluations and will go over the strengths and weaknesses of the presentation. There will be a reduction of 10 points per one missing evaluation.

GLOBAL ENGAGEMENT:

Participate in online virtual exchange twice a month for cultural and research exchange. Write an essay on your experience and suggestions. One single-spaced page, 12 size font.

G&B DEPARTMENTAL SEMINAR ESSAY

Attend one G&B seminar and write an essay which includes a summary of the research talk and critiques of the presentation. One single-spaced page, 12 size font.

IMPORTANT DATES:

Jan 7, Mon, Orientation
Jan 7, Mon - Jan 8, Tue, Late enrollment
Jan 9, Wed, Classes begin
Jan 15, Tue, Last day to register or add a class or declare Audit
Jan 21, Mon, Martin Luther King Jr. holiday
Jan 23, Wed, Last day to drop a class or withdraw from the University without a W grade
Jan 30, Wed, Last day to apply for May commencement
Mar 1, Fri, Last day for instructors to issue midterm evaluations
Mar 15, Fri, Last day to drop a class or withdraw from the University without final grades
Mar 18, Mon - Mar 22, Fri, Spring break

Apr 6, Sat - Apr 13, Sat, Honors and Awards Week
Apr 8, Mon, Registration for fall term begins
Apr 25, Thu - Apr 26, Fri, Classes meet; exams permitted in labs and one-hour courses only
Apr 29, Mon - May 3, Fri, Examinations
May 8, Wed, Candidates for commencement may access grades
May 9, Thu - May 10, Fri, Commencement
May 9, Thu, Doctoral Hooding at the Brooks Center

Tentative Schedule

Date	**Class activities**
Jan. 15	Class overview/Critical thinking & plagiarism
Jan. 22	Students presentation and discussion
Jan. 29	Literature in Genetics (Groff, Jennifer; CU librarian)
Feb. 5	Students presentation and discussion for the remaining dates
Feb. 12	
Feb. 19	
Feb. 26	
Mar. 5	
Mar. 12	
Mar. 19 Spring break	
Mar. 26	
April 2	
April 9	
April 16	
April 23	