

BIOL 861 - Gene expression: Exploring variance

Fall 2017

Rori Rohlf's Class: Mon 1:00-3:00 in HH 245
rrohlf@sfsu.edu Office Hours: Mon 8:30-10:30 in HH 762

Course goals

By the end of this course, students will

- critically read and interpret research manuscripts on gene expression variation.
- effectively present research (and their own analysis of that research) via writing, discussion, and presentation.
- have a current understanding of expression measurement, regulation, and variance (genetic, environmental, and comparative).

Course expectations

- We will formulate ideas and questions to share in class as part of a respectful dialogue.
- Students who find it easy to speak up in class will challenge themselves to step back, while people who find it difficult to speak up in class will challenge themselves to step up.
- To cultivate an active learning environment, we will all keep our attention focused on the material. This means no cell phone usage during class.
- Rori will support students with engaging assignments, facilitated discussions, and one-on-one availability.

Accessibility

Students with disabilities who need reasonable accommodations are encouraged to contact the instructor. The Disability Programs and Resource Center (DPRC) is available to facilitate the reasonable accommodations process. The DPRC is located in the Student Service Building and can be reached by telephone (voice/TTY 415-338-2472) or by email (dprc@sfsu.edu).

If your learning experience can be improved by an accommodation, please talk to me so your needs can be met.

Getting help

Don't hesitate to contact me to check in or work through challenging concepts. You yourselves are an excellent resource. I strongly encourage you to exchange contact information and study together! However, I expect the work you hand in to be your own, written independently, with sources cited appropriately.

Research topics

- Measuring gene expression
- Alternative splicing
- Genetic expression variation
- Gene expression evolution
- Student suggestions?

Grading

Oral presentations	TBD depending on enrollment	300 points
Class participation	2 interims, 152 points each	304 points
Written responses	11 assignments, 36 points each	396 points
	total	1000 points

For written responses, students will receive a check minus (70%), check (85%), or check plus (100%). If a student fails to turn in an assignment, they will receive a 0. Late assignments are strictly not accepted. For oral presentations and class participation, students will be graded on a continuous (details below).

Oral presentations

Each week three students will make short (12 minute) presentations on different aspects of the assigned reading. Throughout this course, each student will present an equitable number of times. Students may use slides, the whiteboard, and other props in their presentations. Slides must be turned in as a pdf on iLearn, as well as emailed to Rori, an hour before class. The three presentations each week will be focused on the context and main question; data and methods; and results and conclusion.

An outstanding presentation includes excellent scientific interpretation and presentation style.

- Prompting questions are fully addressed with appropriate context through accurate and thorough scientific and technical descriptions (25%)
- Targeted critical analysis shows rational flow of ideas, synthesizing student's understanding from paper and background knowledge (25%)
- Clear speaking with appropriate body language/gestures and enhancing (rather than distracting) use of whiteboard/slides/other props (25%)
- Easy-to-follow, organized presentation with appropriate level of complexity for audience within time limit (10-15 minutes) (25%)

Missed oral presentations may not be made up. If you will miss the class of your oral presentation for a scheduled event, talk to me by 4 September.

Class participation

Students are expected to add to small group and class-wide discussions, drawing on their individual expertise and weekly assignment. Productive questions, comments, and suggestions are all constructive ways to participate. Each student's engagement should enliven discussions, providing different ideas and perspectives. Remember: step up/step back.

The candy bowl method will be used each week to determine the whole class discussion leader. All students will be prepared to be the discussion leader. The discussion leader will start with a 1-2 minute summary of the broad approach and results of the paper, then collect discussion questions on the board (contributing their own three specific questions), organize a vote to decide the order of discussion topics, and lead the discussion in an effort to answer the questions.

Written responses

Each week students (except those doing oral presentations) will write short responses (~200 words) to different prompts. Responses should be written in your own informal words so that a grad student who hasn't read the paper could understand (when applicable). Written responses are due on iLearn before class. Each student's lowest written response score will be dropped

An outstanding written response has excellent scientific interpretation and writing style.

- The prompt is fully addressed with well-developed ideas in appropriate context through accurate and thorough scientific/technical descriptions (9 points)
- Informed critical analysis brings new insights (9 points)
- Appropriate writing style and voice are used to creatively convey message (8 points)
- Writing is clear, concise, well-organized, and easy to read (8 points)

Extra credit

About five minutes before the end of each class you will answer brief discussion response questions. Each of these is worth 2 points added to your final grade.

Honor code

"The University is committed to maintaining a safe and healthy living and learning environment for students, faculty, and staff. Each member of the campus community should choose behaviors that contribute toward this end. Students are expected to be good citizens and to engage in responsible behaviors that reflect well upon their university, to be civil to one another and to others in the campus community, and contribute positively to student and university life."

SFSU Standards for Student Conduct. Title V, Article 2 (<http://conduct.sfsu.edu/standards>).

By participating in this class, you agree to abide and adhere to the SFSU Standards for Student Conduct.

I highly encourage you to work in groups and collaborate for this course. However, I expect all written assignments and quizzes to be your own work. Any cheating or plagiarism will result in zero grades for all parties and a report to Biology Department Chair Michael Goldman and COSE Associate Dean Robert Ramirez.

Policy on observance of religious holidays

The faculty of San Francisco State University shall make reasonable accommodations for students to observe religious holidays when such observances require students to be absent from class activities. It is the responsibility of the student to inform the instructor, in writing, about such holidays during the first two weeks of the class each semester. If such holidays occur during the first two weeks of the semester, the student must notify the instructor, in writing, at least three days before the date that he/ she will be absent. It is the responsibility of the instructor to make every reasonable effort to honor the student request without penalty, and of the student to make up the work missed. (SFSU Policy F00-212)

Student disclosures of sexual violence

SF State fosters a campus free of sexual violence including sexual harassment, domestic violence, dating violence, stalking, and/or any form of sex or gender discrimination. If you disclose a personal experience as an SF State student, the course instructor is required to notify the Dean of Students. To disclose any such violence confidentially, contact:

- The SAFE Place - (415) 338-2208; http://www.sfsu.edu/~safe_plc/
- Counseling and Psychological Services Center - (415) 338-2208; <http://psyservs.sfsu.edu/>
- For more information on your rights and available resources: <http://titleix.sfsu.edu>

Departmental and university deadlines and procedures

13 September 2017: Last day to drop classes. During the first two weeks of instruction, dropping a course(s) is permitted without academic penalty. No symbol is recorded on the student's permanent record.

From 13 September 2017 - 17 November 2017: Withdrawal from a class. After the first two weeks of instruction, withdrawal from a course is not permitted except for serious and compelling reasons. The "W" grade carries no connotation of quality of student performance and is not used as units attempted in calculating grade point average or progress points. The expectation of being dropped for nonattendance is not a sufficient reason for withdrawal. If the withdrawal is approved, the student will receive a "W" grade. Requests for withdrawal are reviewed by the Instructor and Department Chair. Students must submit their unofficial transcripts along with their petitions.

From 18 November 2017 - 12 December 2017: Withdrawals are normally not permitted during this period except in cases of verified accident or serious illness where the cause of withdrawal is due to circumstances clearly beyond the student's control and where the assignment of an incomplete is not practical. Ordinarily, withdrawals in this category involve a total withdrawal from the University. All requests during this period must be reviewed by the Instructor, Department Chair, and Associate Dean. Students must submit their unofficial transcripts and appropriate documentation with their petitions.

Note: The University withdrawal policy is: A student may withdraw from an individual course only 2 times no matter what their circumstances are. The third time that the student enrolls in the same course (if the course repeat policy has been waived), they CANNOT withdraw for any reason