

**Learning Objectives:** Upon successful completion of this course, participants will acquire the following skills:

1. Ability to describe the current state of knowledge for several topical areas of cell and molecular biology.
2. Experience in interpreting and summarizing current primary literature in broad areas of cell and molecular biology.
3. Appreciation and understanding of state-of-the-art techniques employed in cell and molecular biology.
4. Competence to discuss the impact and significance of key findings in specific areas of cell and molecular biology.
5. Experience in presenting the results of scientific literature both orally and in written form.
6. Capacity to work in teams for analysis and communication of scientific literature.

**Instructors:**

Dr. J. Perrault (coordinator), [jperrault@sciences.sdsu.edu](mailto:jperrault@sciences.sdsu.edu)

Dr. T. Huxford, [thuxford@sciences.sdsu.edu](mailto:thuxford@sciences.sdsu.edu)

Dr. R. Gottlieb, [robbieg@sciences.sdsu.edu](mailto:robbieg@sciences.sdsu.edu)

Dr. R. Zayas, [rzayas@sciences.sdsu.edu](mailto:rzayas@sciences.sdsu.edu)

Dr. R. Edwards, [raedwards@gmail.com](mailto:raedwards@gmail.com)

Dr. S. Bernstein, [sbernstein@sciences.sdsu.edu](mailto:sbernstein@sciences.sdsu.edu)

Dr. E. Waters, [ewaters@sciences.sdsu.edu](mailto:ewaters@sciences.sdsu.edu)

**Assignments and Grading:** Course materials (schedule of lecturers, paper assignments, lecture material, handouts, etc) will be posted on Blackboard. Each instructor will be responsible for a two-week session and determine the format of the session. In some cases, the first week will consist of lectures given by the designated instructor while the second will consist of oral presentations by students. The particular format however will likely vary from section to section. In addition some instructors may require written assignments from students (literature reviews, “press releases”, mini-grant proposals, or the like). Grades will be determined for each section of the course by the relevant instructor based on the assignments given. The overall grade for the course will be based on equal weighting for each of the seven sections.

**Molecular Biology 610**  
**Advanced Topics in Molecular and Cell Biology**  
**Spring 2010: MW 4:30 - 5:45 pm /LS 132**

<b>Dates</b>	<b>Session</b>	<b>Topic</b>	<b>Instructor</b>
Jan. 20	1 <sup>st</sup> meeting	Course Overview	Dr. Jacques Perrault
Jan. 25, 27	Session 1, week 1	Stem Cell Biology and Regeneration (I)	Dr. Ricardo Zayas
Feb. 1, 3	Session 1, week 2	Stem Cell Biology and Regeneration (II)	Dr. Ricardo Zayas
Feb. 8, 10	Session 2, week 1	Bioinformatics of Microbial Genomes and Metagenomes (I)	Dr. Robert Edwards
Feb. 15, 17	Session 2, week 2	Bioinformatics of Microbial Genomes and Metagenomes (II)	Dr. Robert Edwards
Feb. 22, 24	Session 3, week 1	Mitochondria: Energy for Life, Machinery of Death	Dr. Roberta Gottlieb
Mar. 1, 3	Session 3, week 2	Autophagy: Cellular Recycling Center	Dr. Roberta Gottlieb
Mar. 8, 10	Session 4, week 1	RNA Splicing (I)	Dr. Sanford Bernstein
Mar. 15, 17	Session 4, week 2	RNA Splicing (II)	Dr. Sanford Bernstein
Mar. 22, 24	Session 5, week 1	Generation and use of structural models in molecular biology (I)	Dr. Tom Huxford
<b>SPRING RECESS</b>			
Apr. 5, 7	Session 5, week 2	Generation and use of structural models in molecular biology (II)	Dr. Tom Huxford
Apr. 12, 14	Session 6, week 1	Gene and Genome Evolution (I)	Dr. Elizabeth Waters
Apr. 19, 21	Session 6, week 2	Gene and Genome Evolution (II)	Dr. Elizabeth Waters
Apr. 26, 28	Session 7, week 1	The RNA world	Dr. Jacques Perrault
May 3, 5	Session 7, week 2	RNA Control of Gene Expression	Dr. Jacques Perrault

**Course Coordinator: Dr. Jacques Perrault ([jperrault@sunstroke.sdsu.edu](mailto:jperrault@sunstroke.sdsu.edu))**