

Biol 110: Cell Biology

5-unit course

Meets Tuesday and Thursday 1pm-4:30pm

Social Sciences I, Room 110

Instructor: Matt Ragle

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Office Hours: Wednesdays 1-3pm (Sinsheimer 401)

Teaching Assistant: Hossein Amiri

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Office Hours: Thursdays 10am-12pm (Thimann 329)

Course Learning Objectives:

- 1) Use biochemistry to explain the molecular structure of cellular components.
- 2) Use the structure and molecular composition of each cellular component to explain its function.
- 3) Define and describe the specific mechanisms by which a cell exists in its social environment surrounded by other cells, tissues and chemicals.
- 4) Clearly and accurately communicate the basic cellular and molecular biology behind the initiation, progression and lethality of cancer.
- 5) Design and describe a series of experiments that addresses a specific question in cell biology.

Student Assessment

Midterm Exam (Aug 9 th)	75 Points
Final Exam (Aug 25 th)	100 Points
Class Activities	24 Points (3 pts./class) * 8 classes
	200 Points Total

Exams will be primarily multiple choice, diagraming and short answer.

Clear, concise answers that display accurate knowledge are highly valued...and so is legible handwriting! Cheating on exams will NOT be tolerated, but collaboration during class activities is encouraged. In-class activities will be checked at the end of each class. If you must miss a class, you are responsible for the reading and for emailing your completed activities to me (jragle@ucsc.edu) BEFORE the start of the next class.

Textbook

Molecular Biology of the Cell, 6th edition (or 5th)
Alberts *et al.* 2015 ISBN: 978-0-8153-4105-5

Class Topics/Activities

- July 26 Intro to the Cell & Techniques in Cell Biology
Ch. 1, Ch. 8 (439-509), Ch.9 (529-546)
- July 28 Plasma Membrane Structure & Function
Ch. 3, Ch. 10, Ch. 11
- August 2 Intracellular Compartments and Protein Sorting
Ch. 12 (641-655) (666-691), Ch. 6 (353-359)
- August 4 Intracellular Membrane Traffic & Cell-Cell Interactions
Ch. 13, Ch. 19
- August 9** Cell-Extracellular Interactions
Ch. 19
MIDTERM EXAM (Through Intracellular Membrane Traffic)
- August 11 The Cytoskeleton
Ch. 16, Ch. 12 (656-657)
- August 16 Signal Transduction
Ch. 15
- August 18 Cell Division/Cycle/Death
Ch. 17, Ch. 18
- August 23 Cell Biology of Cancer & Stem Cells
Ch. 20, Ch. 22
- August 25 FINAL EXAM**

Assistance with Disabilities

Students with disabilities who need special assistance with this course should provide me with documentation from the Disabilities Resource Center within the FIRST TWO meetings of the class. This means this week. You can make an appointment (9-2089) or email drc@ucsc.edu