

BIOC440
Concepts in Molecular Biology

COURSE CHAIR: Dr. LeAnn Howe
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INSTRUCTORS: Dr. LeAnn Howe, Dr. Ivan Sadowski, and Dr. Eric Jan

PREREQUISITES: All of BIOC303, BIOC402, and BIOC410

COURSE GOALS:

1. To foster the development of students' skills in reading, interpreting, critiquing and presenting primary literature.
2. To introduce students to emerging concepts and techniques in molecular biology.

COURSE ORGANIZATION:

The course is divided into three modules. Each module will consist of:

1. Two lectures
2. Four small group discussions of assigned research articles
3. Five or six student presentations of assigned research articles

To ensure that students have read the articles in sufficient detail to participate in discussion in both small groups and following student presentations, students will complete short, multiple choice quizzes on Connect prior to class. During small group discussion classes, groups will work together to answer a series of question regarding the assigned paper to hand in at the end of class. For student presentations, students will be divided into pairs, present a 25 minute oral presentation on a paper to the class and lead a subsequent discussion on the paper's impact, strengths and weaknesses.

SCHEDULE (subject to minor alterations):

Jan. 4 – Feb. 1: Transcriptional Silencing (module lead - Dr. LeAnn Howe)

Lectures: Jan. 4 (course intro), 6 and 13

Small group discussions: Jan. 9, 11, 16, 18

Student presentations: Jan. 20, 23, 25, 27, 30 and Feb.1

Feb. 3 – Mar. 10: DNA Repair (module lead - Dr. Ivan Sadowski)

Lectures: Feb. 3 and 10

Small group discussions: Feb. 6, 8, 15, 17

Student presentations: Feb. 27, Mar. 1, 3, 6, 8, 10

Mar. 13 – Apr. 5: RNA Modifications/Editing (module lead Dr. Eric Jan)

Lectures: Mar. 13 and 20

Small group discussions: Mar. 15, 17, 22 and 24

Student presentations: Mar. 27, 29, 31, Apr. 3, 5

GRADING:

- The final grade will be based on marks from online quizzes (1% each for a total of 29%), group assignments (1.5% each for a total of 18%), the presentation (30%) and in-class participation during student presentations (23%).