

CHEM 725 - INDEPENDENT STUDY I

Spring 2017

Class room: Colton 120L

Instructor: Yong Kim, PhD

Office: Tiernan 370

Email: ykim@njit.edu

Office Hours: Mon and Tue from 10:00-11:00AM or by appointment

Prerequisites: CHEM 673 – Biochemistry

Text: Chronobiology: Biological Timekeeping, Jay C. Dunlap, Jennifer J. Loros, Patricia J. DeCoursey, Sinauer Associates, Inc. Publishers, ISBN 0-87893-149-X and current research papers.

Course description: In this course, students will explore the cellular and molecular mechanisms by which organisms “keep time”. The student will read and discuss the related research papers over the course.

Expected learning outcomes

1. Students will become familiar with core concepts in circadian rhythm studies.
 2. Students will be able to read, discuss and evaluate current research articles in the field of chronobiology.
 3. Students will choose a particular area of clock study of their interest and write a mini-review paper on the topic.
- The NJIT honor code will be upheld, and that any violations will be brought to the immediate attention of the Dean of Students.
 - Students will be consulted by the instructor and must have written agreement to any modifications or deviations from the syllabus throughout the course of the semester.

Grade:

Class participation: 30%

Midterm: PowerPoint presentation 30%

Final: Write a mini-review paper for the selected topic 40%

1. Reading: Primary research articles, review articles, and chapters of books. Students are expected to read assigned reading materials before each class.

2. Presentation/Discussion.

My major goal for this course is for students to develop critical thinking and their own perspectives on the subject. For this goal, discussion during classes is an important component for the course.

Student will be responsible for one PowerPoint presentation, centered on a specific paper but broad enough to cover a particular aspect of this topic. The starting point for this presentation will be a paper (+review article, if applicable); I can help you in finding the article if you need help. Student will be required to read this paper before class and answer some simple questions about it. Articles from the following journals are acceptable for class discussion; Science, Nature, PNAS, Chronobiology International, and Journal of Biological Rhythms. If a student wants to use an article from other journals, the student needs an approval from the instructor.

3. Mini-review paper.

Students will write a mini-review paper on a topic of their interests.