Cell Biology Laboratory

CELL 3755-1

Spring 2016

Instructor: Dr. Frank Jones
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Lab: Monday 2:00 PM – 5:00 PM

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Course Description:
This one-semester, one-credit laboratory is designed to introduce the student to in vitro techniques and principles of modern biological research. All the methods and technologies used today could not be covered in a single semester, but the methods learned here are fundamental and form a basis for understanding many more complex approaches.

Course Objectives:
The student should acquire a broad knowledge of the cellular and molecular basis of life and be able to apply molecular techniques to medical, technological, and environmental issues.

Learning Outcomes:
1. At the completion of this course, students will be able to maintain a thorough laboratory notebook.
2. Students will be able to maintain and manipulate a mammalian cell culture.
3. Students will be able to understand and apply the principles behind pharmacological manipulation of in vitro systems and multiple assay designs.

Grading:
Pre-Laboratory Quizzes 20%
Laboratory Participation 20%
Laboratory Notebook 40%
Final Exam 20%

Date Lab Topic/Experiment
1/11 1. Introduction/Keeping a Laboratory Notebook
1/18 NO CLASS – HOLIDAY
1/25 2. Glycoprotein Binding
2/1 3. Cytochemistry
2/8 NO CLASS – HOLIDAY
2/15  4. Immunological Crossactivity
2/22  5. Immunohistochemistry
2/29  6. Introduction to Aseptic Technique
3/7   7. Mammalian Cell Culture
3/14  8. Chemical Differentiation
3/21  NO CLASS – HOLIDAY
3/28  NO CLASS – HOLIDAY
4/4   9. Matrix Invasion Assay
4/11  10. Cell Attachment
4/18  11. Signal Transduction
4/29  Final Exam and Turn in Notebooks

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