Instructor:
Ruth Kibler, Ph.D., Duncan Hall 251; Phone 924-4892 (Office):
Phone - 924-4900 (Biology Office); E mail address: rkibler@email.sjsu.edu
Office Hours: Tues. 10:30 – 11:30; Wed. 8:00 - 9:00; Thurs. 2:30 – 4:00 except March 18 Other times available by appointment.

Tzvia Abramson, Ph.D. Duncan Hall 446
Phone 924-4872; E mail address: tzvia.abramson@sjsu.edu
Office Hours: Tuesday 10:30 – 12:00; Thurs. 10:30 – 1:00

Laboratory Sections: One 3-hour laboratory/week; Duncan Hall 645. One unit.

Course Description

Catalog course description: The experiments in this beginning immunology laboratory are designed to study both the innate and acquired immune systems. Experimentation into the formation, function and detection of antibodies provides students with skills in basic immunologic techniques. Flow cytometry is used in identification of immune cells as well as functional assays of complement mediated phagocytosis.

Prerequisites or Corequisites
1) Completion of Biol 107 with a grade of “C” or better or concurrent enrollment in Biol 107 is required.
2) Completion of Biol 6 or concurrent enrollment in Biol 6 is required.

There is a lab fee for this course.

Laboratory Manual
The laboratory manual for this course is available for purchase from the Biology Student Association.

Exams
Exams: There will be two written exams in this course. Make up exams are given only with a medical excuse or consulting me BEFORE the exam. The material in each exam covers approximately half of the course material. The exams are not lab practicals. Exam questions can be multiple choice, fill in, true/false, short answer and drawing experimental conclusions. The exam will be returned to you during the laboratory within two weeks after the exam.
If you believe an exam has been scored incorrectly, please bring this to my attention immediately after the exam has been returned to you. Write the questions you wish reviewed on the back of the exam along with your reasons for asking for the review of the question. I will periodically total your points, so you will know how you are doing in the course.

Drops
The instructors in this course do not instructor drop students if you stop coming to class. You must do this. If you wish to drop this course, please do so by the stated time. University and Department guidelines require a serious and compelling reason to drop a course. A failing grade, alone, does not constitute sufficient reason to drop a course. You must submit a form to drop a course. My signing of the form is mainly informational and does not constitute approval of a drop. See www.sjsu.edu/sac/.

Expectations
What you can expect from me.
• fairness and impartiality in all grading I grade all homework and exams by ID numbers. The only reason for this is that I do not wish to know whose papers I am grading. This way, I do not have preconceived ideas about how you should do on the exam.
• prepared laboratory materials for each laboratory.
• tests given on the dates announced in the Green Sheet - no surprise changes.
• study questions provided at the end of each lab exercise - some questions on the exam taken from the study questions.
• up to date assessments of how well you are doing in class. Cumulative point scores are calculated after each exam.
• return of exams within 2 weeks after the exam
• helping you to understand the material and providing you with resources when requested. Please use office hours to obtain help or to go over material. The numbers of students sometimes make this difficult, but I encourage you to use this opportunity.

What I expect from you.
• timely attendance at all laboratories - students who attend class usually do better. Most laboratories require that material be turned in for grading. If you do not attend the laboratory, you will not be able to receive a grade for the results of that laboratory.
• reading laboratory material before class. You do not have to understand everything, but it will help you if you have some idea of what material will be covered before you come to the laboratory.
• take exams on time and on announced dates.
• keep track of when homework is due and turn in assignments on time.
• try to learn and understand the material. Most of my satisfaction in teaching comes from observing students who have an interest in learning.
• try to achieve the highest grade possible. The most discouraging statement that I can hear from a student is that you are satisfied with a D.
• inform me of personal concerns or emergencies that affect your performance in the class.

Honesty (my policy) See page 5 for University Policy
Cheating is not tolerated in this class. You do not learn by cheating. Please think about this statement. Do not place me in the position that I must bring this subject to your attention. The penalty for an infraction of the policy can be very severe. Penalties can include a A0” for an exam and not being allowed to drop the course as well as a report to Judicial Affairs where the report is kept on file. Repeat offenders will be given a failing grade in the course and referred to
Judicial Affairs for administrative sanctions which may include expulsion. I will inform students of any action taken against them. An appeal is urged if you feel falsely accused.

Honesty is required on written material. You must do your own work. Your answers using the same sentences and wording as an article or another student=s answers is known as plagiarism. It is appropriate in some cases to use the same terminology as the article, but it is inappropriate to use complete sentences from the article. It is never appropriate to use the words of another person unless it is used as a quote.

Requirements for the Course

If a laboratory assignment is turned in late, 10% of the grade will be taken off each day it is late. If you miss a laboratory, you will receive 0 points for that assignment unless you have a medical excuse AND discuss it with your laboratory instructor. It is possible to make up a missed laboratory in one of the other sections if you discuss it with your instructor.

Exams:

<table>
<thead>
<tr>
<th>Exam</th>
<th>Points</th>
<th>Duration</th>
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<tbody>
<tr>
<td>Exam 1</td>
<td>200</td>
<td>~2 hours</td>
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<tr>
<td>Exam 2</td>
<td>225</td>
<td>~3 hours</td>
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Total Exam Points = 425 points

Lab Exercises: You are responsible for turning in material from most exercises = ~90 points

The material is included in the Laboratory Manual.

Flow Charts: See description in Laboratory Manual 12 points

Poster Session (Lab 14): 50 points

The last laboratory session of the course will be a presentation of material in a Poster Session. You will prepare a poster as laboratory partners from one scientific article. For detailed instructions, see Lab Exercise 14 in the Laboratory Manual.

Total Course Points = ~577

BIOL 107L GRADING POLICY

The following is my grading policy so that there is no confusion as to how I grade.

All exams are graded by an ID number so that I do not know whose exam I am grading. The purpose of using this method is so that I do not have any preconceived ideas about how a student should be doing when I grade.

From the beginning of the course, I guarantee that any student with:

90% or above will receive an A or A-.
80 to 89.9  B+, B or B-
70 to 79.9  C+, C or C-
60 to 69.5  D+, D or D-
less than 60 F
A plus or minus grade will have an approximately 1.5% span. Example: C- would be 70 to 71.5%. A C+ would be 78.5 to 79.9%.

This means that if all of you are between 80 and 89.9, all students will receive a B, B+ or B-. I will never up the percentage necessary for that grade. I really wish that all students in the class would attain this level or higher.

I go over the scores at the end of the semester. I look at averages of the different exams, trends in scores over the years that I have taught the class, presence of graduate students in a certain area of the grade scale.

It is possible that when I look at the scores at the end of the course I may lower the percentage required in each grade category. This means that 89 or 88 might become an A-. The other grade ranges are then lowered to be consistent with that percentage.

I also look at exam scores for you as individuals, particularly if you are on the borderline of a grade range. I try to take into consideration when one exam is low and all other exams are high.

Extra credit is not given. Laboratory homework assignments should receive high grades to increase your score in the course.

University, College, or Department Policy Information

Academic Integrity Statement

“Your own commitment to learning, as evidenced by your enrollment at San Jose State University, and University’s Integrity Policy, require you to be honest in all of your academic course work. Faculty members are required to report all infractions to the office of Judicial Affairs. The policy on academic integrity can be found at: http://sa.sjsu.edu/judicial_affairs/index.html”

Campus policy in compliance with the Americans with Disabilities Act

“If you need course adaptations or accommodations because of a disability, or if you need special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 requires that students with disabilities requesting accommodations must register with DRC to establish a record of their disability.”

Department Policy on Repeating Classes

Students will be allowed to repeat biology majors classes ONLY ONCE. This includes repeating classes for Academic Renewal and repeating them at other institutions. Note that failure to successfully complete a required major’s class in the second attempt may result in disqualification from the major.

Department Policy on Late Adds

The Department of Biological Sciences does not approve Late Adds (adding classes after the end of the add period indicated in the schedule and directory). You are responsible for adding classes before the last day to add and for confirming via Touchtone that you are in the class. When your instructor gives you an add code, you should use it immediately to avoid problems.
Course Objectives

Practice basic immunologic laboratory techniques – micropipettors, microtiterplates, cell culture, aseptic technique

Calculate and prepare dilutions

Prepare antigens for animal inoculation
Perform small animal inoculations (in groups)
Know the proper way to handle animals
Review animal regulations

Collect flow cytometry data files
Analyze flow cytometry data using a computer program

Set up experiments according to protocols
Collect experimental data
Analyze experimental data
Evaluate experimental data
Summarize experimental results

BIOLOGY 107L
IMMUNOLOGY LABORATORY SCHEDULE - 2009

*Prelaboratory assignments in Laboratories 4, 5 and 7 must be filled out before the laboratory and will be submitted either at the assigned laboratory or with other material from that exercise.

1. Jan 27 – 29  Introduction to laboratory techniques

2. Feb 3 - 5  Introduction to the use of animals in immunology
Preimmune serum preparation; antigen preparation
Rabbit immunization - 1  Mouse immunization - 1

3. Feb 10 - 12  Innate immunity - Bactericidal activity of tears;
Morphology of human blood cells; Computer analysis of white blood cell types - learn flow cytometry analysis program

4. Feb 17 - 19  Tissue culture techniques - growth curve of WEHI-22 cells and live/dead analysis (*PRELABORATORY ASSIGNMENT to submit)
You will read results at three time periods after the lab.

5. Feb 24 - 26  What is the Disease? Immunophenotyping - Fluorescent antibody technique, flow cytometry (*PRELABORATORY QUESTIONS)
Rabbit Immunization - 2  Mouse immunization - 2

6. Mar 3 - 5  What is the Disease? Computer analysis of Lab 5 results. (DH550)

7. Mar 10 - 12  How opsonization affects phagocytic activity of neutrophils
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<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
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<tbody>
<tr>
<td>8. Mar 17-19</td>
<td>Lab Exam 1 (Approximately 2 hours over Labs 1, 2, 3, 4, 5, 6)</td>
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<td>Experiment: Agglutination - set up before the exam and read results after the exam</td>
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<td><strong>SPRING BREAK</strong> March 23 - March 27</td>
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<td>9. Mar 31- Apr 2</td>
<td>Lymphocyte stimulation with mitogens and mouse anatomy</td>
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<td>(Read results 1 to 3 days after experiment: Time needed - 15 to 30 minutes)</td>
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<td>Rabbit Immunization - 3 (Inoculations by Animal Care personnel)</td>
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<td>(Tuesday, March 31 is a holiday – all other labs will take place this week as</td>
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<td>scheduled)</td>
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<tr>
<td>10. Apr 7-9</td>
<td>Gel diffusion and electrophoresis. Read results one day after the lab.</td>
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<td>11. Apr 14-16</td>
<td>Complement fixation test</td>
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<td>Inoculate SP-2 cells into mice (Instructor does this 9 days before Lab 12)</td>
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<td>Bleed rabbits for immune serum</td>
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<td>12. Apr 21-23</td>
<td>ELISA</td>
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<td>Observe mice for ascites formation and remove fluid - demonstration</td>
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<td>13. April 28 – 30</td>
<td>Lab Exam 2 ~3 hours - Review Lab 2 on immunization, 7, 8, 9 10, 11, 12</td>
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<tr>
<td>14. May 5 - 7</td>
<td>Poster Session – see instructions early for this lab.</td>
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