Bi114 Syllabus Winter 2018

Lecture	Date	Class Topic	Reading	Instructor
1	1/3/18	Introduction	Janeway-Chp 1	PJB
2	1/8/18	Cells and Organs of the immune system	Kuby Chp 2**	PJB
3	1/10/18	Ab structure/effector functions	Janeway-Chp 4,10	PJB
	1/15/18	(Caltech holiday)		
4 – PS1	1/17/18	Experimental Methods in Immunology	Janeway-Appendix I	PJB
5	1/22/18	Innate Immunity I- Complement/NK cells/Macrophages	Janeway-Chp 2	SKM
6 – PS2	1/24/18	Innate Immunity II- Pattern Recognition	Janeway-Chp 3	SKM
7	1/29/18	VDJ Recombination/class switching	Janeway-Chp 5	Dev
8	1/31/18	(TA Midterm review)		TAs
Midterm Exam – February 2rd, 2018 (due February 9th, 2018 at 5pm)				
9	2/5/18	The Dendritic Cell	Janeway-Chp 9	SKM
10	2/7/18	T cells part I: MHC structure/function	Janeway-Chp 4, 6	PJB
11	2/12/18	T cells part II: Function/Responses	Janeway-Chp 4, 5	PJB
12 – PS 3	2/14/18	Antigen Presentation	Janeway- Chp 6	PJB
	2/19/18	(Caltech holiday)		
13	2/21/18	Adaptive Immune Responses	Janeway-Chp 7,8,9,10	SKM
14	2/26/18	Regulatory T cells	Janeway- Chp 9,15	SKM
15 – PS 4	2/28/18	Autoimmunity / Mucosal Immunology	Janeway- Chp 12, 14,15	SKM
16	3/5/18	B cell development	Janeway-Chp 4,8	PJB
17	3/7/18	T Cell Development	Janeway- Chp 4, 5, 14,15	Mary Yui
Final Exam – March 9, 2018 (due March 14, 2018 at 5pm)				

**https://books.google.com/books?id=oOsFf2WfE5wC&pg=PA23&source=gbs_toc_r&cad=3#v=onepage&q&f=false

Lecture
Mondays and Wednesdays, 1:30-3pm, 200 BRD (URL: https://courses.caltech.edu/course/view.php?id=2199)

Problem Sets handed out:
- Flashcards for Chapter 1 available Jan 3, 2018; must be completed by Jan 10, 2018.
- Flashcards for Chapter 4 available Jan 3, 2018; must be completed on or before Jan 19, 2018.
- Flashcards for Chapters 3, 5, 7 and 9 available Jan 3, 2018; must be completed before midterm.
- Problem Set 1: January 17, 2018
- Problem Set 2: January 24, 2018
- Problem Set 3: February 14, 2018
- Problem Set 4: February 28, 2018
- Problem Sets are due 1 week after they are assigned (Wednesday at 5PM)

Midterm Exam:
- Handed out February 2, 2018; Due February 9, 2018 at 5:00pm

Final Exam:

Policies on use of resources and on collaboration

Course: _Bi 114_ Instructors: Pamela Bjorkman, Sarkis Mazmanian Co-TAs: Bryan Yoo, Magnus Hoffmann, Kim-Marie Dam

This sheet outlines the default course policies for problem sets and tests. These may be overridden by other instructions in particular instances. However, by default, you are expected to follow these policies.
If you have any questions, ASK! Ignorance and confusion are not excuses.

	Problem Sets	**Exams**
Books *While working, you may consult:*		
Required texts	Y	N
Recommended texts	Y	N
Textbooks from prerequisite classes	Y	N
English language dictionary (electronic, hard copy)	Y	Y
The Bi 114 Glossary	Y	N
Reference books (CRC, Merck Index, etc.)	Y	N
Any other texts or journal articles (cite appropriately)	Y	N
Computer and Internet		
You may use a computer as a word processor	Y	Y
You may use the Internet	Y	Moodle only
Notes *You may use:*		
Your class notes (taken in lecture)	Y	N
Hand copies of the class notes of others	Y	N
The class notes of others (original or Xeroxed)	Y	N
Anything written in your own hand	Y	N
Class handouts	Y	N
TA/section handouts	Y	N
Homework/exams of past years	N	N
Homework/prior exams of current year	Y	N
Solutions to homework/exams of past years	N	N
Solutions to homework/prior exams of current year	Y	N
Computational aids *You may use:*		
Calculators, computer as calculator, and slide rules	Y	Y
Mathematical reference tables (integrals, Laplace transforms, etc)	Y	Y
Collaboration *The following types of collaboration are allowed:*		
Tell another student that the question exists	Y	N
Basic discussion of the problems	Y	N
Look at communal materials while writing up solutions	Y	N
Look at other's individual work (i.e., write-ups)	N	N
Turn in a set with more than one name on it	N	N
Sharing communications from/to TAs	Y	N
Comparing answers to completed problems	Y	N
Additional Comments: For problem sets, (1) You must answer in your own words. (2) In addition to these guidelines and rules, obvious copying (even a single sentence) is not allowed. You must feel that you can personally reconstruct the entire response.		

- Handed out March 9, 2018; Due March 14, 2018 at 5:00pm

Instructor office hours

Sarkis Mazmanian	4-5pm Thursday (or by appointment) in 275 Church
Pamela Bjorkman	4-5pm Thursday (or by appointment) in 361 Broad

TA office hours

Scheduled office hours for each problem set:

Problem Set 1: Bryan, Kerckhoff Library 7-8pm, on Mo. & Tue. Jan. 22/23, 2018 **– due date Jan. 24, 2018**
Problem Set 2: Magnus, Broad 200 7-8pm, on Mo. & Tue. Jan 29/30, 2018 **– due date Jan 31, 2018**
Midterm Review: In class Jan 31 (Broad 200)
Problem Set 3: Kim, Broad 200 7-8pm, on Mo. & Tue. Feb. 19/20, 2018 – **due date Feb. 21, 2018**
Problem Set 4: Bryan, Kerckhoff Library 7-8pm, on Mo. March 5, 2018
Magnus and Kim, Broad 200 7-8pm, on Tue. March 6, 2018 – **due date March 7, 2018**
Final Review: Bryan, Magnus, Kim, March 8, 2018

TAs are also available for individual office hours upon request (e-mail the TAs on weekend before desired date)

Magnus Hoffmann	mhoffmann@caltech.edu
Kim Dam	kdam@caltech.edu
Bryan Yoo	byoo@caltech.edu

Requirements:

Class Participation:	10% of grade
Problem sets:	35% of grade
Midterm exam:	20% of grade
Final exam:	35% of grade

Reading Material

1. Required Text:
K. Murphy, P. Travers, M. Walport; Janeway's Immunobiology:, 8th edition. Current Biology, Ltd., 2004

2. Recommended Text:
Fundamental Immunology (5th edition), edited by William E. Paul, 2003, Lippincott Williams and Wilkins. Cells and organs lecture taken from Chapter 2 of Kuby textbook, which can be found online here:
https://books.google.com/books?id=oOsFf2WfE5wC&pg=PA23&source=gbs_toc_r&cad=3#v=onepage&q&f=false

3. Assigned readings from the current literature:
Discussed in class and used for problem sets.
The course is based on lectures and assigned reading material, including both a textbook for background and references from the current literature. It is recommended that you buy the textbook by Janeway, and if you are interested, you may also wish to buy the more authoritative Fundamental Immunology book as a reference. Other readings will be handed out by the TAs. There will be citations of optional readings that you can get from the literature, but which are not strictly required. You're encouraged to use the libraries and the internet (using Caltech's PubMed access- Caltech Connect) to consult these optional papers for additional depth and understanding.

Level of Work
This is not an introductory course. It presupposes some familiarity with the techniques and intellectual vantage points of molecular biology, as well as a comfortable acquaintance with general aspects of cell biology (the cell cycle, transcription, protein synthesis, protein structure & function, DNA recombination, intracellular transport, etc.). You will probably find the workload overwhelming if you are trying to learn these areas of cell biology as you go along the term.

Problem Sets
Problem sets will consist of questions relating to lecture material and assigned papers in the literature will be handed out on the dates specified above. Completed problem sets are due in class one week later or as announced in class. The problem sets are open book and require careful reading of the assigned papers. Consultation with TAs and discussion with classmates is encouraged, but copying answers from another student is a violation of the Honor Code. Over-collaboration will result in a violation of the Honor Code. The problem sets account for 35% of the grade.

No credit will be given for problem sets handed in late, unless you have contacted the TAs before the assignment is due and have a medical excuse signed by a **medical doctor**. The Professors and the TAs determine the amount of time you have for the extension only. Graduate school interviews and traveling do not count as medical excuses. If you plan to be away during part of the term or miss any classes, arrange before you leave to obtain and complete the problem sets early. Beside a documented medical excuse, no other reason will be considered for late submission of problem sets.

The TAs will be available at particular office hours for help before the problem set is due, at a time noted on the problem set. The point of the problem sets is to focus your reading of the literature papers so that we can look forward to some lively discussions**.**

Examinations and General Aspects
There will be two cumulative exams, a midterm exam worth 20% of the grade and a final exam worth 35% of the grade. Beside a documented medical excuse, no other reason will be considered for submission of late exams.

Both the midterm and final are take-home closed book exams. Any copying from published materials, from lecture outlines, the Internet, from another member of the class or any other source is plagiarism and a violation of the Honor Code. The closed book policy is to encourage you to understand the material fully as we go along and not just copy the course material to answer exam questions.

****Every login to Moodle is recorded and looked at by the TAs. "Unauthorized" logins and downloading of course materials will be investigated.****

The only way to understand the material is to ask questions. Please do not be intimidated. Class participation will be rewarded up to 10% of the total grade.

We grade this class on a curve. Although we can't anticipate what percentage range will be assigned to each grade, it is generally the case that you will need to have a 60% or higher in order to pass the class.

Staff

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