

Unit: 2

Course Sessions: Wednesdays

Time: 9:00 am – 10:50 am Pacific Time

Location of Lectures: McKibben Addition (MCH) 149

Location of Exams: McKibben Addition (MCH) 149

First Day of Classes: January 11, 2023

Course Director: Jie Li, PhD (jjeli@usc.edu)

Clinical Assistant Professor

Department of Molecular Microbiology and Immunology

Office: HMR 401

Course Description

The main purpose of this course is to provide an in-depth examination of different aspects of diseases that are caused by the infectious pathogens and immune system defects. Some common diseases, as well as the emerging and re-emerging diseases will be discussed. Some interesting research and novel research methods will be introduced. While INTD522 introduces the students the general principles of infection and host defenses, our goal for this course is to focus on some examples and topics, so that the students understand some specific aspects of the dynamics between the microbes and animal hosts.

Course Goals

While INTD522 introduces the students the general principles of infection and host defenses, our goal for this course is to focus on some examples and specific topics, for the students to understand some important aspects of the dynamics between the microbes and the animal hosts.

Course Learning Objectives

By the end of the semester, students are expected to:

1. Actively engage and participate in the class discussion on topics in this course.
2. Critically read and analyze the scientific papers on the assigned topics.
3. Organize the thoughts and ideas from the selected papers into a minireview.
4. Follow the Cell minireview style, write a term paper to summarize the knowledge, and/or raise questions on the chosen topic.

5. In front of the class, give an oral presentation to communicate your thoughts and knowledge with your audience.

Pre-Requisites, Co-Requisites, Concurrent Enrollment, Recommended Preparation

It is strongly recommended to have completed INTD 522 beforehand. Or, if necessary, with course director's approval, students can take INTD 522 concurrently.

Course Correspondence and Communication

All correspondence between instructors and the students will be made via email. All necessary information for the course is posted to Blackboard. Students are expected to regularly check the Blackboard contents. The Blackboard website may be entered at

<https://blackboard.usc.edu/webapps/login/>.

Anytime during the course, feel free to contact me if you have any questions, or the lecturers if the questions are directly related to the lecture contents. If there is a need to discuss anything in person, especially during the course of writing, we can schedule an appointment to meet.

Recommended Textbooks

Textbooks are on reserve in the library. There are also copies for sale in the bookstore. Some textbooks provide online resources for students who have purchased the books. Also, take advantage of the website <http://blackboard.usc.edu>, and check frequently.

Murphy, K. and Weaver C. **2017** *Janeway's Immunobiology* 9th ed., Garland Science: ISBN 978-0-8153-4505-3.

E-books are also available.

Abbas, A.K., Lichtman, A.H. and Shiv Pillai. **2015**. *Cellular and Molecular Immunology* 8th ed., W.B. Saunders: ISBN 978-0-323-22275-4

Knipe, D.M., Howley, P.M., Whelan, S., Cohen, J.I., Griffin, D.E., Lamb, R.A., Malcom, M.A., Racaniello, V.R. and Roizman, B. **2020** *Field's Virology* 7th ed., Lippincott, Williams & Wilkins: ISBN 978-1975112547

ISBN 978-1975112547

http://www.usc.edu/e_resources/hsl/gateways/7904.php

Flint, S.J., Enquist, L.W., Racaniello, V.R. and Skalka, A.M. **2015**. *Principles of Virology* 4th ed., American Society for Microbiology Press: ISBN 978-1-55581-951-4

Grading

Final grade = written term paper (Max possible 40 points) + oral presentation (Max possible 30 points) + classroom participation (Max possible 30 points)

1. Term paper

A term paper in the style of a Cell minireview is the main required work of this course. Minireviews are of great value because they often raise questions or suggest new hypotheses. Students are expected to write a focused short review on a topic that is covered in the course, or one that is closely related. The topic needs to be approved by the course director before writing. Writing a minireview is helpful in organizing thoughts and summarizing the knowledge about a particular topic. It is also a good exercise of scientific writing.

The main body of the term paper should include the following:

- Abstract to summarize the key points of your minireview,
- Background or introduction to provide rationale why the topic is worth exploring,
- Several aspects of the specific topic that are organized in chapters or sections.
- Conclusions or future directions that summarize the current opinions, significance, and/or make your own point that is different from the current mainstream thinking with reasonable explanations.

The paper needs to be typed in Times New Roman and size 12 font with a 6-12 page length double spaced. Tables, figures and bibliography are not included in this length. The writing should be coherent with minimal grammatical mistakes.

Papers are graded by the course director.

2. Oral presentation of your written paper

Oral presentation is another exercise in this course to communicate the scientific ideas and knowledge with your fellow students. It is expected that the students present the main part (or all) of your term paper in 20-30 minutes, followed by 5-10 minutes Q and A with your audience. Powerpoint slides are used to aid the presentation in front of all audience.

Presentations are evaluated by both course director and all peers in the class. The following criteria are considered:

- The presentation title reflects the contents well.
- The slides are well made with good visual impression.
- The presenter engages the audience well with an eye contact.
- The presenter explains the topic clearly, sensibly, and logically.
- The presenter has a good control of the room and time management.
- The presenter wrapped the talk clean, leaving a good impression.

3. Class participation

Classroom engagement is an important component of this course. All students are expected to contribute positively to the classroom in a mature manner.

Lecture Schedule:

Time and Location

(Wed 9-10:50 am, MCH 149)

	Title	Lecturer
January 11	Introduction	Li
January 18	Emerging Viruses	Li
January 25	SARS-CoV 2	Tahara
February 1	Autophagy and the Replication of Hepatitis B Virus	Ou
February 8	Bioinformatics in Virology Research	Lee
February 15	Tumor Stem Cells in Virus Caused Liver Cancer	Machida
February 22	Signal Transduction in Immune Responses	Zandi
March 1	Autoinflammatory and Autoimmune Diseases	Whelan
March 8	Tuberculosis and Metabolomics	Eoh
March 15	Spring Break	
March 22	Viral Vectors	Yu
March 29	Humanizing Mice in Infectious Diseases and Cancer Studies	Yuan
April 5	Systems Biology in Infectious Diseases	Lee
April 12	Student presentation	
April 19	Student presentation	
April 26	Student presentation	
May 3	Term paper due	

E-MAIL CONTACTS FOR LECTURERS

Lecturer	Email Address
Dr. Jie Li	jjeli@usc.edu
Dr. Stanley Tahara	stahara@usc.edu
Dr. James Ou	jamesou@usc.edu
Dr. Keigo Machida	Keigo.Machida@med.usc.edu
Dr. Ebrahim Zandi	zandi@usc.edu
Dr. Ha Youn Lee	hayoun@usc.edu
Dr. Weiming Yuan	Weiming.Yuan@med.usc.edu
Dr. Patrick Whelan	jpatrickwhelan@gmail.com
Dr. Bingfei Yu	ybf0313@stanford.edu
Dr. Hyungjin Eoh	heoh@usc.edu

ACADEMIC CONDUCT AND ACADEMIC INTEGRITY STANDARDS

- Members of the USC community are expected to be honest and forthright in their academic endeavors.
- To falsify the results of one's research, to present the words, ideas, data, or work of another as one's own, or to cheat on an examination corrupts the essential process by which knowledge is advanced.
- When students accept their offer to USC they are also accepting to abide by the Student Conduct Code.
- This is a higher standard of conduct than expected in the general community because we are TROJANS.
- When USC confers a degree, it is acknowledging students' academic success and their ability to be a positive, honest, and outstanding citizen within society.
- In failing to uphold academic standards students cheat themselves and others out of learning, degrade the value of their education, and diminish the prestige of the USC education.
- Ignorance of these expectations is not an acceptable justification for violating the Student Conduct Code.

The University prides itself in maintaining high academic integrity standards. The entire academic community benefits from the adherence to such standards. Among the violations of integrity standards is plagiarism. Plagiarism has to be avoided. It is a serious academic offense with serious consequences. When it occurs, the consequences for the student can be severe. For example, credit for a course may be denied and a grade of F is given, permanent notation on transcript, suspension or expulsion from the University, or revocation of admission or degree.

What is Plagiarism?

- Plagiarism is the appropriation of another person's ideas, processes, results, or words without giving appropriate credit.
- For example, if you use a sentence from somebody else's paper and insert it into your own paper without clearly marking the source, you are plagiarizing.

Further information, including a number of tutorials for students, can be found online at: <https://libraries.usc.edu/research/reference-tutorials>. This website has tutorials such as: how to avoid plagiarism, how to prevent academic dishonesty, how to manage your research, and other useful how-to tools and tutorials.

- [Understanding and Avoiding Plagiarism I: \(What is plagiarism?\)](https://libraries.usc.edu/tutorial/understanding-and-avoiding-plagiarism-module-1-what-plagiarism-what-citation)

<https://libraries.usc.edu/tutorial/understanding-and-avoiding-plagiarism-module-1-what-plagiarism-what-citation>

- [Understanding and Avoiding Plagiarism II: \(Citing to avoid plagiarism\)](https://libraries.usc.edu/tutorial/understanding-and-avoiding-plagiarism-module-2-citing-avoid-plagiarism)

<https://libraries.usc.edu/tutorial/understanding-and-avoiding-plagiarism-module-2-citing-avoid-plagiarism>

Students should expect that their work (such as term papers, research proposals, presentations, written theses, etc.) will be checked for plagiarism with the use of appropriate software (Turnitin; iThenticate; Copyscape; PaperRater; etc.).

BEYOND ACADEMIC CHALLENGES

Balancing course work, midterms, finals, and laboratory research presents a challenge and at times can feel overwhelming. On top of that, many students are far away from home and family, perhaps even their country and their native language, which can feel quite depressing. Sometimes, relationship problems come up and make life miserable. But no matter the problem, USC offers resources to help students deal with depression, anxiety, and other types of distress. USC's services are not only geared toward helping students with academic challenges, but also with personal problems. Students in need should not hesitate to take advantage of the services that are listed above (and on the next page); there is no need to feel embarrassed or ashamed. USC is offering these services and resources so that students are in the best position to meet their academic and personal goals.

Students and Disability Accommodations (213) 740-0776, osasfrontdesk@usc.edu.

USC welcomes students with disabilities into all of the University's educational programs. The Office of Student Accessibility Services (OSAS) is responsible for the determination of appropriate accommodations for students who encounter disability-related barriers. Once a student has completed the OSAS process (registration, initial appointment, and submitted documentation) and accommodations are determined to be reasonable and appropriate, a Letter of Accommodation (LOA) will be available to generate for each course. The LOA must be given to each course instructor by the student and followed up with a discussion. This should be done as early in the semester as possible as accommodations are not retroactive. DSP is located in GFS-120 (University Park Campus) and is open 8:30 a.m. – 4:30 p.m., Monday through Friday. More information can be found at osas.usc.edu
http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html

Stress Management (323) 442-5631, <http://ecohenshc.usc.edu>

Students are under a lot of pressure. If you start to feel overwhelmed, it is important that you reach out for help. A good place to start is the Eric Cohen Student Health Center on Health Sciences Campus (HSC). The service is free and confidential.

Student Counseling Services (213) 740-9355 – 24/7, <https://engemannshc.usc.edu/counseling/>

Free and confidential mental health service for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

988 Suicide and Crisis Lifeline (formerly known as the [National Suicide Prevention Lifeline](https://www.988lifeline.org/))

988 for both calls and text messages – 24/7 on call [988lifeline.org](https://www.988lifeline.org/)

The 988 Suicide and Crisis Lifeline provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week, across the United States. The Lifeline is comprised of a national network of over 200 local crisis centers,

combining custom local care and resources with national standards and best practices. The new, shorter phone number makes it easier for people to remember and access mental health crisis services (though the previous 1 (800) 273-8255 number will continue to function indefinitely) and represents a continued commitment to those in crisis.

Relationship and Sexual Violence Prevention Services (RSVP) - (213) 740-9355(WELL) – 24/7
sites.google.com/usc.edu/rsvpclientservices/home

Free and confidential therapy services, workshops, and training for situations related to gender- and power-based harm (including sexual assault, intimate partner violence, and stalking).

Office for Equity, Equal Opportunity, and Title IX (EEO-TIX) - (213) 740-5086
eetix.usc.edu

Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants.

Reporting Incidents of Bias or Harassment - (213) 740-5086 or (213) 821-8298

usc-advocate.symplicity.com/care_report

Avenue to report incidents of bias, hate crimes, and microaggressions to the Office for Equity, Equal Opportunity, and Title for appropriate investigation, supportive measures, and response.

Diversity, Equity and Inclusion - (213) 740-2101, diversity.usc.edu

Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

USC Campus Support and Intervention - (213) 740-0411, campussupport.usc.edu

Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

USC Emergency - (213) 740-4321 (UPC) / (323) 442-1000 (HSC) – 24/7,
emergency.usc.edu

Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

USC Department of Public Safety - (213) 740-6000 (UPC) / (323) 442-1200 (HSC) –
24/7, dps.usc.edu

Non-emergency assistance or information.

Office of the Ombuds - (213) 821-9556 (UPC) / (323-442-0382 (HSC)
ombuds.usc.edu

A safe and confidential place to share your USC-related issues with a University Ombuds who will work with you to explore options or paths to manage your concern.

Occupational Therapy Faculty Practice - (323) 442-2850 or otfp@med.usc.edu
chan.usc.edu/patient-care/faculty-practice

Confidential Lifestyle Redesign services for USC students to support health promoting habits and routines that enhance quality of life and academic performance.

OTHER SUPPORT SYSTEMS

A number of USC schools provide support for students who need help with scholarly writing. Check with your advisor or program staff to find out more. Students whose primary language is not English should check with the American Language Institute <http://dornsife.usc.edu/ali>, which sponsors courses and workshops specifically for international graduate students.

If an officially declared emergency makes travel to campus infeasible, USC Emergency Information <http://emergency.usc.edu/> will provide safety and other updates.