SCRB 145: From Cells to Tissues, in Sickness and in Health

Lecture Times: Tuesdays and Thursdays 10:30 - 11:45AM.

Location: SF268

Office Hours: Ya-Chieh: Tuesdays 4:30 â€“ 5:30 pm; Kiwi: (2:00 â€“ 3:00 pm). Or by appointments only.

Welcome to SCRB 145! We are excited to get to know you and get to explore some of the most exciting topics in cells, tissues, organs, all the way to the organisms.

Please see the syllabus here SCRB145_Syllabus_2024.pdf and more about the course and FAQ below.

If you have not enrolled in SCRB 145 but still wish to enroll:

- Please come to the first lecture to decide if you would be interested in this class. More instructions will be given on how to enroll in the class during the lecture.

Contact info for the instructor:

Ya-Chieh Hsu: yachieh_hsu@harvard.edu

Contact info for teaching fellows:

Kiwi Florido: kiwiflorido@g.harvard.edu

Jia Yin (Sally) Xiao: jiayin_xiao@g.harvard.edu

A little bit about the class:

1. We embrace a holistic and organismal view to understand stem cell biology and developmental biology. By the end of the course, you will understand (1) the principles by which your tissues and organs are built, (2) how diverse cell types (such as fibroblasts and neurons) regulate stem cell behavior, (3) how lifestyle factors (such as stress and diet) and environmental changes (such as the circadian clock and microbiota) affect your tissues and organs, (4) how tissues repair themselves after injury, and (5) what happens when these principles go awry in disease situations such as inflammation and cancer.
2. We focus on understanding the **principles**, not memorization. By the end of the course, you will also master the skills of critical thinking and experimental designs. You will learn to think like a scientist and discover how critical thinking skills can inform your decisions and enrich your life.
3. We cultivate a class environment that everyone feels safe to express their ideas and is interested in learning from each other. There are opportunities for you to get to know other students and work together on group projects. We build a tight community. Many of our past students make good friends with other students in the class and have kept in touch with the instructor and TFs even after the class ends.
4. Prerequisites: LS1A/B or LS50, SCRB10 or MCB 60, or permission from the instructor.

If you are fascinated by how our tissues and organs are built and maintained, hope to understand more about how our body works and disease mechanisms, and want to help us build a dynamic, passionate, and interactive class environment, we would love to have you here!

Q&A

Q1: Are there lab/section times in addition to the T/Th class time?

A: There are no additional sections to the classes.

However, when you belong to the leading group who leads the paper discussion section, your group will identify a time to meet with the TF beforehand to discuss the paper and your presentation. This way he can provide guidance and mentorship for the group. This will be a one-time thing, as you will lead the discussion only once throughout the semester.

Some students may opt to meet with the TF to discuss their group projectâ€”"People in scienceâ€ as well, but this is optional.

Q2: Can you tell me about the format of the exams?

A: Midterm and Final exams are essay-style, **open book** exams.

You will have access to both lecture notes and slides during the exam. Exams are designed to test your application of what you have learned in class to solve problems, and are therefore intended to test your understanding of the material, not your memorization. If you understand the class material, you will do well. We will hand out practice questions before the midterm to give you a sense for the type of questions you will see on the exam. We will also hold review sessions before each exam.

Q3: How can I do well in the class?

A: We encourage you to think and participate in class. We encourage you to ask questions if you don't understand a concept we're talking about (either in class or after class - you can help other students because you're probably not the only one who doesn't understand). We often have a lot of really fun idea exchanges and discussions in class that really help everyone learn better! Thinking together in class will also save you a lot of study time.

We want all of our students to succeed in class. Both the TF and the instructor are committed to help each of you and we understand that you may have different learning styles. Feel free to come by our office hours or schedule a time with us if you have any questions about the materials we cover in class (or if you want to learn more about any of the subjects we covered because they are interesting!) â€“ we are here for you!

It is also important to study as we go along, rather than wait until right before the exam.

Q4: I am a little shy to speak in a class setting, is this a problem?

A: No! We understand! There are many ways for you to participate in class. We often allow students to discuss their ideas with classmates before sharing them. We also sometimes have students write down their thoughts as a way of sharing. You can also contact the instructor or TF after class to ask questions or share your thoughts if you feel more comfortable doing so (email is fine too!). We love to hear from you because it really helps us identify concepts that might be a little confusing for students and find different ways to explain them better. Also, many of you have EXCELLENT ideas and questions, and it's just so much fun to think about these interesting problems together (some of which don't even have solutions yet - that's why research is important!)

That said, we foster a class environment where everyone feels safe to speak up and share their ideas. Many of our past students have become more comfortable sharing and participating in SCRB145-even if they are not used to sharing their ideas in other classes.

More questions? Email Ya-Chieh!

A little bit about the instructor:

Ya-Chieh Hsu is currently a Professor of Stem Cell and Regenerative Biology at Harvard University. The Hsu laboratory seeks to understand how tissue formation, regeneration, and repair are shaped by diverse stimuli at the level of the niche, physiology, and the environment using the mammalian skinâ€” an accessible organ with diverse cell types and multiple populations of somatic stem cells.

SCRB145 contains some of the topics Ya-Chieh is most excited about. Like you, Ya-Chieh has an endless curiosity about how our body works. Teaching allows her to share her passion and learn together with (and learn from) her students. She values the opportunity to get to know her students and be a part of this journey together.

Ya-Chieh has been recognized by Harvardâ€™s Roslyn Abramson Award for Excellence and Sensitivity in Undergraduate Teaching, as well as a Special Commendation: Extraordinary Teaching in Extraordinary Times, for her flexibility and creativity in adapting to online teaching, and her compassionate response during the COVID outbreak.