Instructor:
Anne E. Zemper, Ph.D. Assistant Professor of Biology

Classroom Hours: Mon/Weds 10-11:20a
Classroom Location: 252 Straub
Office hours: Wednesdays 1:30p, Streisinger 218

Email: Please include “Bi410/510” in the subject line, so your email can be attended to in time. We will try to answer your email in a timely manner; however, we do not often check our email in the evenings or during weekends.

In this extraordinary time, I am committed to our course—to experiencing our course material together, learning, questioning, and growing as a class community, even given how challenging things are right now.

I hope that we can:
Be moved and challenged by these concepts in stem cell biology and how they apply to the living world (in course materials and big issues/questions);
Practice patience and flexibility in online learning, which are cross cutting, transferrable skills;
Engage in ethical dialogue that widens our perspectives and deepens our knowledge;
Affirm our hopefulness about the future by continuing to learn and answer questions/practice skills/examine subjects that are perhaps more relevant now than ever/that give us context to understand our present moment/that help us appreciate the beautiful even in a time of great challenge.

Course Overview:
Stem cells exist in all living organisms, are critical for your everyday life and have a much longer life span than other cell types in your body. In the past 20 years, they have been both glorified and vilified in the popular media. This course will take a closer look at these cells from the developmental, cellular and molecular angle. We will look more closely at the scientific possibilities that these cells provide, as well as explore their potential in regenerative medicine. In addition, we will explore what happens when these cells are improperly regulated, which can lead to cancer. In our final lecture, we will explore the scientific and ethical debates surrounding using stem cells in regenerative medicine.
The course approach will be very different from lecture-based classes. Material learned in Bi320 Molecular Genetics, Bi328 Developmental Biology Bi428/538 Developmental Genetics will help you relate basic principles and experimental methods to primary research papers. Be prepared to challenge yourself, participate, and explore one of the most exciting areas of biology.

Class Format:
Classes are held Mondays and Wednesdays, from 10-11:20am. The Monday class will consist of a lecture relevant to the week’s selected paper. These lectures will cover stem cell-related principles, background on the week’s paper, and an introduction to techniques used in the paper. On Wednesdays, we will have a brief in-class quiz on the material covered in the previous lecture and the paper being discussed. The quiz could also cover material from earlier weeks. Following the quiz, student groups will present the week’s paper in a “journal club” format and encourage discussion among all members of the class. Some weeks, we will be accompanied by the senior author from the selected publication, either in person or via Skype, where we will be able to ask them questions about the selected publication. The quiz will be briefly reviewed the following Monday.
**Technical Requirements:**
Log into canvas.uoregon.edu using your DuckID to access our class. If you have questions about accessing and using Canvas, visit the Canvas support page. Canvas and Technology Support also is available by phone or live chat:
541-346-4357 | livehelp.uoregon.edu
If you face Internet access challenges: companies are offering free access during this challenging time. To learn more about options visit Information Services’ web page on going remote.

Our class will communicate through our Canvas site. Announcements and emails are archived there and automatically forwarded to your UO email, and can even reach you by text. Check and adjust your settings under:
Account > Notifications.

**Office Hours:**
The instructor will host live office hours each week, and time and day of the week are stated above. We also have a running discussion forum on our Canvas called “Class Questions and Answers” for the entire group to ask and answer. I welcome meetings outside my regular office hours, too, knowing that there is considerable uncertainty in all of our lives right now. Just email me to set a time.

If you contact me with a question, I will try to respond within one business day. I typically provide feedback on assignments within one week.

**Why should you reach out to me?**
Talking with my students about our course material is a true pleasure—confused or excited about something? Wondering how what we're learning relates to current events, career choices, or other classes you can take UO? Please be in touch! Please also be in touch to tell me how you are doing in these difficult times—are you having a tough week? Having troubling with some aspect of the course? I would like to strategize with you. You are my student in a term that I suspect you and I will always remember. I will do everything I can to help you succeed.

**Reading Materials:**
There is no required textbook. The primary literature paper for each week will be available in PDF format on Canvas (including supplemental material). All the chosen papers (including high resolution figures) are also available online through UO library institutional access. Use the digital object identifier (doi) in the schedule below to quickly link to each paper (http://dx.doi.org/). Any other supporting papers (reviews, etc.) will also be uploaded to Canvas.

The lectures will be posted on Canvas the day they are given.

**Weekly Quizzes:**
There will be seven weekly quizzes of 15 minutes duration, and worth 50 points. Quizzes will be administered in person. You may refer to a copy of the paper and any hand-written notes during the quizzes. Your six highest scores will count towards your final grade. Combined, the quizzes will comprise 30% of your grade. (300 points)

**Paper Presentation and Discussion:**
In small groups, students will be responsible for presenting and leading discussions on the week’s paper. This requires preparing a presentation (Powerpoint, PDF, or otherwise) of the figures in the paper. You will need to present the significance, background, the questions being addressed, hypotheses, aims, and conclusions derived from the paper. Each group MUST meet with me in advance to discuss their preparation. At that meeting, you will bring a draft of your presentation and discussion points your group intends to raise that week. It is your responsibility to coordinate a meeting
time. Your grade will be assigned based on your ability to present the content of the paper in a clear and concise manner and to encourage discussion. All group members must participate. 20% of your course grade will be based on this presentation. (200 points)

Research Proposal:
As individuals, each student will prepare a 3-page research proposal on a topic of interest in the field of stem cell biology. This requires identifying an interesting unresolved question, proposing a hypothesis to explain it, and describing an experimental approach to test that hypothesis. The written proposal is due on the date of the course final exam. You will also defend your proposal, with slides, through a presentation to the rest of the class. 20% of your grade will be based on the written proposal (200 points) and 15% for the oral presentation (150 points).

Participation:
This course depends on productive discussions among the entire group. Those who consistently participate in both paper discussions and in Q/A sessions during the student presentations will be rewarded with full credit worth 15% of your final grade. (150 points)

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<tr>
<th>Grade</th>
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<td>A+</td>
<td>97-100</td>
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<td>A</td>
<td>93-96.9</td>
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<td>A-</td>
<td>90-92.9</td>
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<tr>
<td>B+</td>
<td>87-89.9</td>
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<td>B</td>
<td>83-86.9</td>
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<tr>
<td>B-</td>
<td>80-82.9</td>
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<td>C+</td>
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<td>C</td>
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General policy on participation and assignments:
As the university community adjusts to teaching back in person in the context of the COVID-19 pandemic, course requirements, deadlines, and grading percentages are subject to change. I will be mindful of the many impacts the unfolding events related to COVID-19 may be having on you. Though attendance and participation account for 15% of students’ grades, I can develop and post to canvas make-up activities, which may be used up to two times by any student for any reason. During this unusual time, I encourage you to talk with me about what you are experiencing so we can work together to help you succeed in this course.

No Extra Credit
There will be no opportunities for extra credit. Please do not ask for exceptions.

Inclusive Learning:
We aim to build an inclusive learning environment. We understand that our members represent a rich variety of backgrounds and perspectives. We are committed to providing an atmosphere for learning that respects diversity. While working together to build this community we ask all members to:
- share their unique experiences, values and beliefs.
- be open to the views of others.
- honor the uniqueness of their colleagues.
- appreciate the opportunity that we have to learn from each other.
- value each other’s opinions and communicate in a respectful manner.
- keep confidential discussions that the community has of a personal (or professional) nature.

Please notify me if there are aspects of the instruction or design of this course that result in disability-related barriers to your participation. You are also encouraged to contact the Accessible Education Center at 541-346-1155 or uoaec@uoregon.edu.

COVID Containment Plan for Classes
As the University of Oregon returns to in-person instruction, the key to keeping our community healthy and safe involves prevention, containment, and support. Here is information critical to how the UO is responding to COVID-19.

**Prevention:** To prevent or reduce the spread of COVID-19 in classrooms and on campus, all students and employees:
1. Must to be comply with vaccination policy
2. Must wear face coverings in all indoor spaces on UO campus
3. Complete weekly testing if not fully vaccinated or exempted
4. Wash hands frequently and practice social distancing when possible
5. Complete daily self-checks
6. Stay home/do not come to campus if feeling symptomatic
7. Complete the UO COVID-19 case and contact reporting form if you test positive or have been in close contact with a confirmed or presumptive case.

**Containment:** If a student in class tests positive for COVID-19, all relevant classes will be notified via an email by the Corona Corps Care Team with instructions for students and staff based on their vaccination status. Specifically:
1. **Vaccinated and Asymptomatic students:** Quarantine not required, but daily self-monitoring before coming on campus is advised; sign up for testing through MAP 3-5 days after exposure if advised you are a contact.
2. **Unvaccinated or partially vaccinated students:** 14-day quarantine advised – do not come to class – and sign up for testing 3-5 days after notification through MAP, if asymptomatic, or through University Health Services (541-346-2770) or your primary care provider, if symptomatic.
3. **Symptomatic students:** stay home (do not come to class/campus), complete the online case and contact form, and contact University Health Services (541-346-2770) or your primary care provider to arrange for immediate COVID-19 testing.

Students identified as a close contacts of a positive case will be contacted by the Corona Corps Care Team (541-346-2292).

**Support:** The following resources are available to you as a student.
- University Health Services or call (541) 346-2770
- University Counseling Center or call (541) 346-3277 or (541) 346-3227 (after hrs.)
- MAP Covid-19 Testing
- Corona Corps or call (541) 346-2292
- Academic Advising or call (541) 346-3211
- Dean of Students or call (541)-346-3216

**Good Classroom Citizenship**

- Wear your mask and make sure it fits you well
- Stay home if you’re sick
- Get to know your neighbors in class, and let them know if you test positive
- Get tested regularly
- Watch for signs and symptoms with the daily symptom self-check
- Wash your hands frequently or use hand sanitizer

Complete the UO COVID-19 case and contact reporting form if you test positive or are a close contact of someone who tests positive.

**Life at College**

Life at college can be very complicated. Students often feel overwhelmed or stressed, experience anxiety or depression, struggle with relationships, or just need help navigating challenges in their life. If you’re facing
such challenges, you don't need to handle them on your own—there's help and support on campus.

As your instructor if I believe you may need additional support, I will express my concerns, the reasons for them, and refer you to resources that might be helpful. It is not my intention to know the details of what might be bothering you, but simply to let you know I care and that help is available. Getting help is a courageous thing to do—for yourself and those you care about.

University Health Services help students cope with difficult emotions and life stressors. If you need general resources on coping with stress or want to talk with another student who has been in the same place as you, visit the Duck Nest (located in the EMU on the ground floor) and get help from one of the specially trained Peer Wellness Advocates. Find out more at health.uoregon.edu/ducknest.

University Counseling Services (UCS) has a team of dedicated staff members to support you with your concerns, many of whom can provide identity-based support. All clinical services are free and confidential. Find out more at counseling.uoregon.edu or by calling 541-346-3227 (anytime UCS is closed, the After-Hours Support and Crisis Line is available by calling this same number).

Discussion and Engagement Guidelines for Remote Participation

Participate and Contribute: Students are expected to participate by sharing ideas and contributing to the collective learning environment. This entails preparing, following instructions, and engaging respectfully and thoughtfully with others. More specific participation guidelines and criteria for contributions will be provided for each specific activity.

Use Proper Netiquette: Please use good “net etiquette”: identify yourself with your real name and use a subject line that clearly relates to your contribution. Write or speak in the first person when sharing your opinions and ideas but when addressing other students or discussing their ideas, use their names (e.g. "I think red is the most important term in the poem, but I also think Kate is correct that blue is important, too"). Respect the privacy of your classmates and what they share in class. Understand that we may disagree and that exposure to other people's opinions is part of the learning experience. Good netiquette also means using humor or sarcasm carefully, remembering that non-verbal cues (such as facial expressions) are not always possible or clear in a remote context. In addition, your language should be free of profanity, appropriate for an academic context, and exhibit interest in and courtesy for others' contributions. Be aware that typing in all capital letters indicates shouting. Certain breaches of netiquette can be considered disruptive behavior.

Interact Professionally: Our learning environment provides an opportunity to practice being professional and rigorous in our contributions. As much as possible, use correct spelling, grammar, and style for academic and professional work. Use discussions and activities as opportunities to practice the kind and quality of work expected for assignments. Moreover, seize the chance to learn from others and develop your interpersonal skills, such as mindful listening and awareness of one's own tendencies (e.g. Do I contribute too much? Too little?).

Expect and Respect Diversity: All classes at the University of Oregon welcome and respect diverse experiences, perspectives, and approaches. What is not welcome are behaviors or contributions that undermine, demean, or marginalize others based on race, ethnicity, gender, sex, age, sexual orientation, religion, ability, or socioeconomic status. We will value differences and communicate disagreements with respect. We may establish more specific guidelines and protocols to ensure inclusion and equity for all members of our learning community.

Help Everyone Learn: Our goal is to learn together by learning from one another. As we move forward learning during this challenging time, it is important that we work together and build on our strengths. Not everyone is savvy in remote learning, including your instructor, and this means we need to be patient with each other, identify ways we can assist others, and be open-minded to receiving help and advice from others. No one should hesitate to contact me to ask for assistance or offer suggestions that might help us learn better.
**Academic integrity:**
The University Student Conduct Code defines academic misconduct, which includes unauthorized help on assignments and examinations and the use of sources without acknowledgment. Academic misconduct is prohibited at UO. I will report misconduct to the Office of Student Conduct and Community Standards—consequences can include failure of the course. In our remote class, I will ask you to certify that your papers are your own work. Exams are timed and Canvas automatically varies the questions students receive. I will adjust times to support students with accommodations through the Accessible Education Center.

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<tr>
<th>Date</th>
<th>Class content</th>
<th>Week's Paper/Quiz the Expert</th>
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<tbody>
<tr>
<td>September 27</td>
<td>Lecture #1: Introduction, Course Goals and Syllabus, Scientific Process and Paper Analysis, Discuss Paper Sign ups</td>
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<td>Oct 4</td>
<td>Lecture #3: Homeostatic Stem Cells: Developmental Programs and Coordinated regulation</td>
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<td>Oct 6</td>
<td>Quiz #1 Paper Discussion 1</td>
<td>Development 2018 doi: 10.1242/dev.166579 Published 27 November 2018 Transcriptional response to Wnt activation regulates the regenerative capacity of the mammalian cochlea</td>
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<td>Oct 11</td>
<td>15’ Review / Lecture #4: Homeostatic Stem Cells: Adult Maintenance Programs Niche requirements</td>
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<td>Oct 18</td>
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<td>Quiz #6 Paper Discussion 6</td>
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<td>Nov 15</td>
<td>15’ Review / Putting it all together: Guest Lecture TBA</td>
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<td>Nov 22</td>
<td>15’ Review / Lecture #9: The Great Stem Cell Controversy: Dolly, CRISPR and Beyond</td>
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<td>Student Presentations/Due date for written research proposal</td>
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