

BIOL 830P: Stem Cell Biology (3 credits), Section 01, Spring 2019

Instructor: Dr. Joseph Dolence

Email: dolencejj@unk.edu (either email or discussion board is best way to reach me for questions or concerns)

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Getting in touch "Office hours": I will be available Monday-Friday during the day from 8AM CST-5PM CST to respond to messages you have. On Canvas, there will be a discussion board for any questions you have, in addition, feel free to email me. I will check my email periodically through the day and you can expect a response by the end of the day most of the time. If I am unable to get to you, I will try my best to respond to you with an estimated response time. If you want, you can also set up an appointment. During appointments, I will be available via phone or online face-to-face time with video calling (Skype, Zoom, Facetime). Please send me an email to set up an appointment. *I want you to be as successful as possible and part of that is accessibility to me.* Therefore, if you have questions or concerns, don't hesitate to contact me.

As for weekends or after working hours (after 5PM CST), my email checking will be intermittent. I will try my best to get back to you as soon as possible, but if I can't, I will respond the next day, or in the case of weekends, on Monday at the latest.

Course materials

Required: Essentials of Stem Cell Biology by Lanza and Atala, 3rd (2014) edition. For your convenience, I have made the title of the book in the previous sentence a link where you will find the PDFs of the textbook's chapters online (full link: <http://www.sciencedirect.com/science/book/9780124095038>). I will post covered chapters on our course Canvas site. Additional readings will be required, and as they occur, I will post these to Canvas.

Recommended: A Short Guide to Writing About Biology by Pechenik, 9th (2015) edition. I recommend purchasing a copy of A Short Guide to Writing About Biology because it is a great reference for biological writing and presenting.

Required Hardware/Software: Students should refer to the following eCampus website to make sure you meet the minimum hardware/software and internet connection speed required by all UNK eCampus students.

<http://www.unk.edu/academics/ecampus/resources-info/students/technology/requirements.php>

One thing: your computer needs to be equipped with a webcam and microphone to complete assignments in the course.

Canvas

Our course Canvas site will be a repository for all things related to the class: recorded lectures, lecture slides, assignments, exam helps, additional readings, links of interest, and your grade. You should take time to become familiar with our course Canvas site (via UNK website).

Course description

In this course, we will cover the basic principles of stem cell biology, followed by a survey of how stem cells develop into the various tissues and organs of humans and in experimental animal models. We will discuss the experimental strategies and therapeutic potential of stem cells, along with discussion of the ethical and legal issues related to working with embryonic stem cells. To obtain a deeper understanding of stem cell biology and the experimental approaches necessary to study this field, you will prepare a presentation based on a primary literature article, complete a grant proposal writing assignment, and write a paper about the ethics of stem cell biology.

Course objectives

The following objectives will be met upon successful completion of this course:

1. A greater understanding of the basic principles of stem cell biology.
2. You will learn where stem cells reside throughout the body and the current understanding about how stem cells develop into various tissues including blood, heart, liver, pancreas, and gastrointestinal tract.
3. You will learn about widespread developmental potential of specialized stem cell and progenitor populations such as mesenchymal stem cells, stem cells found in amniotic fluid, hematopoietic stem cells, and multipotent adult progenitor cells.
4. You will learn about the current understanding of the therapeutic potential of stem cells.
5. A greater understanding of the experimental strategies utilized to study stem cells.
6. You will gain experience in analyzing and presenting the findings on a primary literature article about a topic relevant to the field of stem cell biology.
7. You will increase your understanding of experimental design, scientific writing, and ultimately, learn how to most effectively communicate why you should be given financial resources to study the area of stem cell biology in which you are interested through writing a NIH-style grant proposal.
8. A greater knowledge of the ethical and legal considerations one must consider when working with stem cells.

Course Schedule and Video Lecture Schedule

Please see calendar for the schedule of all our lectures, assignments, exams, other important dates, etc. Also take note of the video lecture schedule document. You are responsible for watching the videos by the end of the week and completing required assignments. The lecture schedule for the course is tentative. We will adjust as necessary.

Attendance

Course policy

Because this is an online course, attendance means viewing all of the lectures and participating in the course. Failure to participate in the course to the best of your ability will result in lower comprehension of course material and a lower grade. Weekly discussion boards will be assigned on topics from lecture and other course materials, so failure to participate in these discussions will significantly impact your ability to learn the material and perform well in this course.

University policies and guidelines

Student attendance in online courses is defined as active participation in the course. Online courses will, at a minimum, have weekly mechanisms for student participation, which will be documented by any or all of the following methods: discussion board, assignments, quizzes, etc. Students are responsible for informing the instructor about their absence from class and for completing assignments given during their absence.

Grading for BIOL 830P Graduate

Two 100-point exams	200 points
Final exam	150 points
Weekly discussion participation (10 pts/week)	150 points
Literature oral presentation	100 points
Grant proposal written assignment	100 points
Stem cell ethics paper	100 points
<u>Total:</u>	800 points

Letter grades will be determined by the percent of the total possible points you earn: A = 92% or better, B = 82-88%, C = 72-78%, D = 60-68%, and F = 59% or less. "+" or "-" extensions are added based on where scores fall between these grades and whether grades show improvement during the semester. For example, if you have a 92% at the end of the semester, you will get an A. If you have 89.2%, you might get an A- or a B+.

Student academic workload policy: One credit is defined as: 1. Not less than one class hour of classroom or direct faculty instruction and a minimum of two hours out of class student work each week for approximately fifteen weeks for one semester credit hour of credit. 2. At least an equivalent amount of work as outlined in 1.

above for other academic activities as established by the institution including laboratory work. Alternative explanation (with less legalese): one credit is defined as equivalent to an average of three hours of learning effort per week (over a full semester) necessary for an average student to achieve an average grade in the course. Therefore, expect to spend an additional two hours a week on course work outside the classroom for every hour in the classroom or laboratory. More information can be found under the *Semester Credit Hour Definition* on the following website: <https://catalog.unk.edu/undergraduate/academics/academic-regulations/student-load/>

Coursework

Exams: There will be three exams during the semester. The due dates of the first two exams are: **Friday, February 8 and Friday, March 15**. The cumulative final exam will be due on **Wednesday, May 1**. **Exams must be turned in by 5PM CST on due date.**

Weekly discussion boards will be assigned throughout the semester on Canvas. These boards will be a great way to breakdown and dive deeper into course content. Each week, a new topic will be examined based on the topic we are covering. Instructions for how to participate in these discussions will be posted to Canvas.

Oral presentation: Each of you will select a primary literature paper about a stem cell biology topic of your choice and record a 30-minute presentation using the video recording software found in Canvas (VidGrid). Part of your grade will be participating in a discussion board about the presentations. The specifics of this assignment will be found on the course Canvas site.

Grant proposal written assignment: During the semester, you will conceive, design, and write a NIH-style grant proposal to study a topic related to stem cell biology. In this way, you will increase your understanding of experimental design, scientific writing, and ultimately, learn how to most effectively communicate why you should be given financial resources to study the area in which you are interested. A draft of your proposal is due **Monday, March 11**, with the final draft due on **Friday, April 12**. More details about this assignment will be provided on the course Canvas site.

Stem cell ethics paper: During the semester, you will write a paper based on the ethical considerations found in the world of stem cells. This paper will be due on **Friday, April 26** (last day of class). More details about this assignment will be provided on the course Canvas site.

Assignment policies

You will submit your assignments via links on Canvas. For each particular assignment, I will dictate what kind of file you are to upload. Most of the time it will be either a Word, Excel, PowerPoint, or PDF file. While I will accept files emailed to me, my strong preference is for you to upload them to Canvas. Please name your files starting with your last name so it is easy for me to track your assignments (e.g. Dolence Assignment 1).

Late assignments will be accepted, with penalty based on how overdue the assignment is. Any late assignment will be deducted 10% per day it is late, and after 4 days (so at the start of day 5), a zero will be given for the assignment.

Make-up work

Because this is an online course, you should be able to work around your schedule to complete coursework. However, if there is an extenuating circumstance that requires you to miss a due date, **please talk to me**. I will work with you if something happens to you that is due to unavoidable or legitimate circumstances.

Classroom Expectations

The following guidelines will help your work more efficiently in this course. Please carefully review these guidelines and follow them.

1. You are expected to maintain academic integrity in this course according to the student academic behavior standards. For further details take a look at: Undergraduate Student Policies and/or Graduate Student Policies OR read what I wrote above!

2. Keep up with the readings. You will have chapters, modules, discussion postings, and e-mail messages to read for the class. As with any learning experience, the more you are able to put into reading, thinking, and applying the material in this course, the more you will get out of the course.
3. Be prepared to spend at least 6 - 9 hours per week working on this course. If you are less experienced with online learning, and/or less experienced with the content of this course, expect to spend more hours per week to participate fully.
4. Don't turn in late assignments. Late submissions will result in a lower grade.
5. Don't miss a quiz or exam. Missed quizzes or tests without instructor approval will not be retaken. If you are going to miss a quiz or exam, let me know immediately!
6. Work with others. You are required to make every effort to work effectively and promptly with others in your groups and discussion boards. Fair criticism of your failure to work effectively with others may significantly affect your collaboration and grade.

Academic Integrity Policy

The maintenance of academic honesty and integrity is a vital concern of the University community. Any student found in violation of the standards of academic integrity may be subject to both academic and disciplinary sanctions. Academic dishonesty includes, but is not limited to, the following:

1. **Cheating:** Copying or attempting to copy from an academic test or examination of another student; using or attempting to use unauthorized materials, information, notes, study aids or other devices for an academic test, examination or exercise; engaging or attempting to engage the assistance of another individual in misrepresenting the academic performance of a student; or communicating information in an unauthorized manner to another person for an academic test, examination or exercise.
2. **Fabrication and falsification:** Falsifying or fabricating any information or citation in any academic exercise, work, speech, test or examination. Falsification is the alteration of information, while fabrication is the invention or counterfeiting of information.
3. **Plagiarism:** Presenting the work of another as one's own (i.e., without proper acknowledgment of the source) and submitting examinations, theses, reports, speeches, drawings, laboratory notes or other academic work in whole or in part as one's own when such work has been prepared by another person or copied from another person.
4. **Abuse of academic materials and/or equipment:** Destroying, defacing, stealing, or making inaccessible library or other academic resource material.
5. **Complicity in academic dishonesty:** Helping or attempting to help another student to commit an act of academic dishonesty.
6. **Falsifying grade reports:** Changing or destroying grades, scores or markings on an examination or in an instructor's records.
7. **Misrepresentation to avoid academic work:** Misrepresentation by fabricating an otherwise justifiable excuse such as illness, injury, accident, etc., in order to avoid or delay timely submission of academic work or to avoid or delay the taking of a test or examination.
8. **Other Acts of Academic Dishonesty:** Academic units and members of the faculty may prescribe and give students prior written notice of additional standards of conduct for academic honesty in a particular course, and violation of any such standard shall constitute the Code.

Under Section 2.9 of the Bylaws of the Board of Regents of the University of Nebraska, the respective colleges of the University have responsibility for addressing student conduct solely affecting the college. Just as the task of inculcating values of academic honesty resides with the faculty, the college faculty are entrusted with the discretionary authority to decide how incidents of academic dishonesty are to be resolved. For more information, please visit UNK's *Procedures and Sanctions for Academic Integrity* (https://www.unk.edu/offices/reslife/_documents/academic-integrity-policy.pdf) and the *Student Code of Conduct* (https://www.unk.edu/offices/reslife/_documents/university-of-nebraska-at-kearney-student-code-of-conduct.pdf).

Students with Disabilities

It is the policy of the University of Nebraska at Kearney to provide flexible and individualized reasonable accommodation to students with documented disabilities. To receive accommodation services for a disability,

students must be registered with UNK Disabilities Services Coordinator, David Brandt, in the Academic Success Office, 163 Memorial Student Affairs Building, 308-865-8214 or by email unkdso@unk.edu.

Students Who are Pregnant

It is the policy of the University of Nebraska at Kearney to provide flexible and individualized reasonable accommodation to students who are pregnant. To receive accommodation services due to pregnancy, students must contact Cindy Hayes in Student Health, 308-865-8218. The following link provides information for students and faculty regarding pregnancy rights: <http://www.nwlc.org/resource/pregnant-and-parenting-students-rights-faqs-college-and-graduate-students>

If you have an accommodation plan, please see Dr. Dolence as soon as possible, so any necessary arrangements can be made for your learning. No accommodations can be provided until a Reasonable Accommodation Plan is in place. Please remember, plans are not retroactive and cannot be used for assignments prior to the date of the instructor's signature. To the greatest extent possible, University Representatives, shall observe confidentiality with respect to any request for accommodation.

Veterans Services

UNK works diligently to support UNK's military community by providing military and veteran students and families with resources and services to help them succeed. Veterans Services assists with the GI Bill process and acts as a liaison between the student and the Veterans Administration. If you need assistance or would like more information, please contact Lori Weed Skarka at 308-865-8520 or unkveterans@unk.edu.

Reporting Student Sexual Harassment, Sexual Violence or Sexual Assault

Reporting allegations of rape, domestic violence, dating violence, sexual assault, sexual harassment, and stalking enables the University to promptly provide support to the impacted student(s), and to take appropriate action to prevent a recurrence of such sexual misconduct and protect the campus community. Confidentiality will be respected to the greatest degree possible. Any student who believes she or he may be the victim of sexual misconduct is encouraged to report to one or more of the following resources:

Local Domestic Violence, Sexual Assault Advocacy Agency: 308-237-2599

Campus Police (or Security): 308-865-8911

Title IX Coordinator: 308-865-8655

Retaliation against the student making the report, whether by students or University employees, will not be tolerated.

If you have questions regarding the information related to disability, pregnancy, or veterans accommodations or information related to reporting student sexual harassment, sexual violence or sexual assault, please contact Mary Chinnock Petroski, Chief Compliance Officer (petroskimj@unk.edu or phone 8400).
