

Introduction to Regenerative Medicine

IDH3931 Section Class Number: 31167

2 Credits

Tuesday Periods 8 and 9 (3:00 PM – 4:55 PM)

Room: Matherly (MAT) 0018 and 0119

Spring 2022

Instructors

Dmitry Traktuev, Ph.D. (dtraktuev@ufl.edu)

Keith March, M.D., Ph.D. (kmarch@ufl.edu)

Office Hours: Please email to Dr. Traktuev to schedule meeting if needed

Office Location: Medical Science Building M405

Course Description

Regenerative medicine creates an opportunity to repair diseased, injured or congenitally defective tissues and organs for patients with conditions that are currently beyond repair. Regenerative Medicine uses three approaches: repair, replacement and rejuvenation. Each week a different faculty member from the UF and invited speakers from other universities will give a lecture on their current research. Students are advised to review appropriate literature beforehand and are welcome to participate in an interactive discussion during class. Students will have weekly written assignment that will require to address different pathological conditions (diseases) using the therapeutic approaches discussed in class or will be tested on understanding of the material presented.

Course Objectives

Students will gain an initial understanding of a new era of medical innovations represented by stem/progenitor cell-based therapies, gene therapies and tissue engineering which will be illustrated with fundamental, translational and clinical studies.

Prerequisite Courses

BSC2010/L – Integrated Principles of Biology I

BSC2011/L – Integrated Principles of Biology II

Required Materials

There are no required materials for this course.

Course Schedule

Dates	Medical Damage Zones
01/11/2022 (1) *	Introduction: Keith March (kmarch@ufl.edu) and Dmitry Traktuev (dtraktuev@ufl.edu)
01/18/2022 (2)	Wounds: Greg Schultz (schultzg@ufl.edu)
01/25/2022 (3)	Heart: Mustafa Ahmed (mustafa.ahmed@medicine.ufl.edu)
02/01/2022 (4)	Burns: Joshua Carson (Joshua.carson@surgery.ufl.edu)
02/08/2022 (5)	Blood: Biljana Horn (biljana.horn@ufl.edu)
Dates	Biological Superheroes
02/15/2022 (6)	Hematopoietic Stem and Progenitor Cells: Ed Scott (escott@ufl.edu)
02/22/2022 (7)	Islet Transplants: Cherie Stabler (cstabler@bme.ufl.edu)
03/01/2022 (8)	Vasculogenesis and the Tale of Two Cell Types: Dmitry Traktuev (dtraktuev@ufl.edu)
SPRING BREAK	
03/15/2022 (9)	Adipose Stem Cells and their Secrets: Keith March (kmarch@ufl.edu)
03/22/2022 (10)	iPSC - Cells of the Most Plastic Variety: Ed Scott (escott@ufl.edu)
03/29/2022 (11)	Designing Cells by Gene Therapy: Barry Byrne (bbyrne@ufl.edu)
04/05/2022 (12)	Building Cell Constructs with 3D Printing: Tom Angelini (t.e.angelini@ufl.edu)
04/12/2022 (13)	Scar-Free Regeneration in the Phenomenal African Spiny Mouse: Malcolm Maden (malcmaden@ufl.edu)
04/19/2022 (14)	Creating Clinical Trials with Cells: Carl Pepine (carl.pepine@medicine.ufl.edu)

Evaluation of Grades (13 classes)

Assignment	Total Points	Percent of Grade
Attendance	52 (4 pts/class) *	33.30%
Online Discussions	104 (8 pts/class) *	66.70%
TOTAL	156	100%

*Class on 02/11/22 will not be counted toward grade.

Class Attendance and Make-Up Policy

Class attendance is required. Attendance will be taken at the beginning of each class by passing around a student list that you are to initial to indicate attendance. Signing in for another student is considered cheating. Each unexcused absence will result in a 3-point reduction in the final grade.

Excused absences are consistent with university policies in the undergraduate catalog (<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>) and require appropriate documentation 24 hours in advance.

Online Discussion Criteria

The discussion will open at 5:00 PM every Friday and close at 11:59 PM the following Wednesday. **Late posts/replies will not be accepted.**

	Point Value
Answer the question that is posted each week with supporting evidence	3
At least 350 words	1
At least 2 references cited APA style (http://www.citationmachine.net/apa)	2
2 replies that will add (agree or disagree and why) to the initial statement of the other student. Minimum 100 words each.	2
TOTAL	8

Grading Policy

Percent	Grade	Grade Points
≥ 90.00	A	4.00
≥ 86.66	A-	3.67
≥ 83.33	B+	3.33
≥ 80.00	B	3.00
≥ 76.66	B-	2.67
≥ 73.33	C+	2.33
≥ 70.00	C	2.00
≥ 66.66	C-	1.67
≥ 63.33	D+	1.33
≥ 60.00	D	1.00
≥ 56.66	D-	0.67
< 56.66	E	0.00

Students Requiring Accommodations

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, www.dso.ufl.edu/drc/) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Course Evaluation

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>.

University Honesty Policy

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.”

The Honor Code (<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Counseling and Wellness Center

Contact information for the Counseling and Wellness Center:

<http://www.counseling.ufl.edu/cwc/Default.aspx>, 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.