**Tentative Fall 2011 Course Syllabus BME 6938 (section 8132)**

***Stem Cell Engineering for Biomedical Engineers***

In order to graduate, graduate students must have an overall GPA and an upper-division GPA of 3.0 or better (B or better). Note: a B- average is equivalent to a GPA of 2.67, and therefore, it does not satisfy this graduation requirement. For more information on grades and grading policies, please visit: <http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html>.

**Catalog Description:** BME 6938 is an introduction to Stem Cell Biology for Biomedical Engineers. Lectures will be given by Dr. Ormerod and students enrolled in the class. Topics will include an historical review of stem cell research and policies surrounding it, current stem cell sources, strategies and reviews of current stem cell research. This information is essential for Biomedical Engineers to understand in their attempts to repair/rebuild the human body after injury or disease. (3 credits)

**Pre-requisites and Co-requisites:** This course is open to all graduate students enrolled in Biomedical Engineering. Please contact Dr. Ormerod for more information regarding course enrollment if you are not a graduate student in the Biomedical Engineering Department.

**Course Objectives:**

To expose Biomedical Engineering students to the promise and pitfalls of stem cell strategies for tissue repair, teach students how to critically evaluate published research and devise multiple approaches for addressing clinical questions.

**Instructor:**

***Dr. Brandi Ormerod***

Office location: Room J296 BMSB

Telephone: 273-8125

E-mail: bormerod@bme.ufl.edu

Web site: http://stemcell.bme.ufl.edu

Office hours: Tuesday 2-3pm

**Teaching Assistant**:

TBA

\*Note: Please contact instructor and teaching assistant via e-mail to set-up appointments outside normal office hours.

**Class schedule:** The class meets once per week on Tuesdays (see below).

**Meeting Times and Locations:**

Tuesday, Periods 4-6 (10:40 – 1:40pm), TBA.

Textbooks Required:

1. Stem Cells: Scientific Progress and Future Research Directions

(can be downloaded at : <http://stemcells.nih.gov/info/scireport/2001report.htm>).

2. Regenerative Medicine 2006

(can be downloaded at <http://stemcells.nih.gov/info/scireport/2006report.htm>).

3. Ormerod, Palmer and Caldwell (2008) Neurodegeneration and Cell

Replacement. Phil Trans R Soc B, 363, 153-170. (can be downloaded off [pubmed](http://www.ncbi.nlm.nih.gov/pubmed/)).

Tentative Outline (topics will be finalized when enrollment is finalized):

August 23rd – Organizational meeting/Introduction to Stem Cells

August 30th – Stem terminology, history and politics (Introductions and Appendices)

September 6th – Embryonic stem cells (NIH publications)

September 13th – Adult stem cells (NIH Publications)

September 20th - Stem Cell Strategies for repair (Ormerod et al paper)

Student Talks (60 min each)

Favorite Stem/Progenitor Cell

September 27th – Student presentations

September 23rd – Student presentations

October 4th – No Classes

October 11th – Student presentations

October 18th – Student Presentations

Stem Cell Strategies for Disease Repair (60 min each)

October 25th - Student presentations

November 1st – Student presentations

November 15th – Student presentations

November 22nd – Student Presentations

November 29th – Student Presentations

December 6th – Student Presentations

\*\*Students typically give matched talks. For example, a student presenting the topic skin stem cells will later talk about engineering new skin.

Previous student presentation topics included: skin stem cells/engineering skin, liver stem cells/engineering cures for diabetes, induced pluripotent stem cells/patient-specific cells, neural stem cells/engineering brain circuitry or spinal cord repair, etc.

1. **Attendance and Expectations**
   1. Respect for others
      1. No cell phone or laptop use during any classes (you will be asked to leave and will receive 0 for participation that day).
      2. No off-topic discussion during class (you will be asked to leave and will receive 0 for participation that day).
   2. Professionalism
      1. Be on time to lectures (speakers ready to start at the beginning of class and everyone is present at the beginning of class).
      2. Be well prepared for classes (assigned readings should be completed *BEFORE* class).
      3. Actively participate in classes, but stay on topic (off topic discussion will subtract points from your grade).
      4. Be courteous and cooperative
      5. Uphold UF’s Honor Code
   3. Attendance is required as your grade will reflect your class participation.
   4. Students missing classes will not be able to make up grades for class participation.
2. **Grading**:
   1. Participation: 30%

You will attend class ON TIME, prepared (you’ve completed assigned readings) and ready to participate. Discussion is key to obtaining a good participation grade.

* 1. Presentation 1: 25%

*Presenter will meet with Dr. Ormerod during her office hour the week before presenting*

Bii) Annotated Bibliography (Prelim due 1 week before talk; Final due 1 day after talk): 10%

ci) Presentation 2: 25%

cii) Annotated Bibliography (Prelim due 1 week before talk; Final due 1 day after talk): 10%

*Presenter will meet with Dr. Ormerod during her office hour the week before presenting*

**Participation:**

* You attend each class *ON TIME* (be ready to start the class at 10:40)*.* If you are giving a talk, you have your computer set up so that you are ready to start your talk at 10:40. As an audience member, you are in your seat and ready to participate at the class start time).
* You ask several good questions at each meeting. Good questions are not “what’s the temperature of the oven you used?”-type questions. You need to have read the suggested information to ask good questions. Students who prepare prior to the meeting by completing the assigned readings will likely ask good questions.

1. **Grading Scale:** A: 92 – 100; B+: 89 – 91; B: 82 – 88; C+: 79 – 81; C: 72 – 78, etc.

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1. **Make-up Exam Policy –** not applicable.
2. **Late Policy –** DON’T hand things in late. This is graduate school.
3. **Honesty Policy** – All students admitted to the University of Florida have signed a statement of academic honesty. Doing so commits them to be honest in all academic work and failure to comply with this commitment will result in disciplinary action. Thus, this is a reminder to uphold your obligation as a UF student and to be honest in all work submitted and quizzes/exams taken in this course and all others. **An honor code violation will receive a zero grades on the assignment or exam and will be referred to the honor court for prosecution.**

Note: Any information that has been copied to any degree from the internet or from published material is considered to be plagiarized. Any idea that is recycled (reworded or adapted from a figure) without being appropriately cited (i.e. the ORIGINAL source) is also considered to be plagiarized. Plagiarism is a violation of the academic honesty policy. You are responsible for understanding what plagiarism is. If you plagiarize, you will receive ZERO for the assignment and will be reported to the department (no exceptions – this is graduate school).

1. **Accommodation for Students with Disabilities** – Students requesting classroom accommodation must first register with the Dean of Students Office. That office will provide the student with documentation that he/she must provide to the course instructor when requesting accommodation.
2. **UF Counseling Services** – Resources are available on-campus for students having personal problems or lacking clear career and academic goals. The resources include:
   1. University Counseling Center, 301 Peabody Hall, 392-1575, Personal and Career Counseling.
   2. SHCC mental Health, Student Health Care Center, 392-1171, Personal and Counseling.
   3. Center for Sexual Assault/Abuse Recovery and Education (CARE), Student Health Care Center, 392-1161, sexual assault counseling.
   4. Career Resource Center, Reitz Union, 392-1601, career development assistance and counseling.