

Biomaterials Laboratory

EMA 4061L Section 19BB

Class Periods: Tuesday Periods 7-9 (1:55pm – 4:50pm)

Location: Rhines Hall B06

Academic Term: Fall 2019

Instructor:

Dr. Shema Freeman

Email Address: sfree@ufl.edu

Office Phone Number: (352) 256 - 4025

Office Hours: TBD

Teaching Assistants:

Please contact through the Canvas website

- Bisheng “Justin” Zhang, bzhang1@ufl.edu

Course Description

Hands-on laboratory experience in the processing and characterization of biomaterials for use in medical applications. (1 credit)

Course Pre-Requisites / Co-Requisites

Co-requisite EMA4061

Course Objectives

To investigate the structure, properties, and applications of metal, polymer, and ceramic based biomaterials. To understand the structure-property-performance in design and function of biomaterial devices.

Materials and Supply Fees

\$80

Required Textbooks and Software

- See Canvas course site

Recommended Materials

- Title: Biomaterials Science: An introduction to materials in medicine
- Author: Ratner, Hoffman, Schoen, Lemons
- Publication date and edition: 2013 (3rd edition)
- ISBN number: 978-0-08-087780-8 (electronic bk.)

Course Schedule (Tentative 8/13/19)

Week 1: Laboratory Safety and Hazardous Waste

Week 2: Working in the Lab

Weeks 3-6: Cell Culture

Weeks 7-8: Hydrogels

Weeks 9-10: Microspheres

Weeks 11-12: Surface Modification

Weeks 13-14: Bioceramics

Attendance Policy, Class Expectations, and Make-Up Policy

- **Policy on Class Attendance:** Attendance is strongly suggested since significant amount of participative as well as individual and collaborative work will be performed during the class sessions and will be

worth as much as 15% of the course points.

- **Policy on General Behavior, Cell Phones, and Laptops:** Proper behavior in class is always important and leads to a relaxed and productive educational environment. Thus, eating, drinking, texting, reading of newspapers, working on homework for this or other courses, or other activities that are not part of the class are not allowed. Students who do not comply with these requirements or who behave disorderly or disrespectfully WILL be asked to leave the classroom. Leaving your cell phone on, leaving early or arriving late can be VERY distracting, you should avoid it. All electronic devices (laptops, cell-phones, etc.) should be turned off or in silent mode. Use of smartphones, laptops, tablets or similar personal computers is not allowed unless explicitly requested by the individual student the first day of class and for note taking purposes only. No audio/video recording is allowed with express permission of lecturer.
- **Policy on Excused Absences:** 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.

Evaluation of Grades

Assignment	Total Points	Percentage of Final Grade
Lab Notebook	100 each	20%
Pre-Lab Activities	100 each	5%
In Class Participation	100	15%
Student Written Products	100	60%
Total		100%

Grading Policy

Grades are not curved, but points are occasionally added to everyone's score if a problem is deemed to have been too difficult or unfair. When determining the final grade, the final point value score will be rounded up for values of 0.5 and above.

Percent	Grade	Grade Points
92.0 - 100.0	A	4.00
88.0 - 91.9	A-	3.67
84.0 - 87.9	B+	3.33
80.0 - 83.9	B	3.00
76.0 - 79.9	B-	2.67
72.0 - 75.9	C+	2.33
68.0 - 71.9	C	2.00
65.0 - 67.9	C-	1.67
62.0 - 64.9	D+	1.33
59.0 - 61.9	D	1.00
56.0 - 58.9	D-	0.67
0 - 55.9	E	0.00

More information on UF grading policy may be found at:

<http://gradcatalog.ufl.edu/content.php?catoid=10&navoid=2020#grades>

Students Requiring Accommodations

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, <https://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/evals>. 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.

Commitment to a Safe and Inclusive Learning Environment

The Herbert Wertheim College of Engineering values broad diversity within our community and is committed to individual and group empowerment, inclusion, and the elimination of discrimination. It is expected that every person in this class will treat one another with dignity and respect regardless of gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture.

If you feel like your performance in class is being impacted by discrimination or harassment of any kind, please contact your instructor or any of the following:

- Your academic advisor or Graduate Program Coordinator
- Robin Bielling, Director of Human Resources, 352-392-0903, rbielling@eng.ufl.edu
- Curtis Taylor, Associate Dean of Student Affairs, 352-392-2177, taylor@eng.ufl.edu
- Toshikazu Nishida, Associate Dean of Academic Affairs, 352-392-0943, nishida@eng.ufl.edu

Software Use

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

Student Privacy

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: <https://registrar.ufl.edu/ferpa.html>

Campus Resources:

Health and Wellness

U Matter, We Care:

Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact umatter@ufl.edu so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

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

Sexual Discrimination, Harassment, Assault, or Violence

If you or a friend has been subjected to sexual discrimination, sexual harassment, sexual assault, or violence contact the **Office of Title IX Compliance**, located at Yon Hall Room 427, 1908 Stadium Road, (352) 273-1094, title-ix@ufl.edu

Sexual Assault Recovery Services (SARS)

Student Health Care Center, 392-1161.

University Police Department at 392-1111 (or 9-1-1 for emergencies), or <http://www.police.ufl.edu/>.

Academic Resources

E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu.
<https://lss.at.ufl.edu/help.shtml>.

Career Resource Center, Reitz Union, 392-1601. Career assistance and counseling. <https://www.crc.ufl.edu/>.

Library Support, <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring.
<https://teachingcenter.ufl.edu/>.

Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers.
<https://writing.ufl.edu/writing-studio/>.

Student Complaints Campus: https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf.

On-Line Students Complaints: <http://www.distance.ufl.edu/student-complaint-process>.