BMEN 1300.001 Discover Biomedical Engineering
Spring 2020

Instructor:
Dr. Xiaodan Shi
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Phone: 940-369-8950
Office Hours: M-Th 2:00-3:00 pm, or by appointment

Teaching Assistant:
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Class Schedule:
Lecture: M and W: 8:30-9:20 am (Discovery Park D215)
Laboratory: T 10:00-12:50 pm (Discovery Pak K140)

Course Description:
Exploratory core course in Biomedical Engineering (BMEN) which shapes the BMEN student’s first year experience. The course covers basic concepts of biomedical engineering and their connection with the spectrum of human activity. It serves as an introduction to the fundamental science and engineering on which biomedical engineering is based.

Learning Objectives:
Upon completion of the course, students should be able to gain (1) an understanding of engineering ethics and professionalism; (2) insight into BMEN research through invited guest speakers; (3) problem solving skills in engineering; (4) an understanding of engineering and mathematics fundamentals. The laboratory exercises and projects teach students to think critically and creatively by applying a range of analysis techniques borrowed from many engineering and science disciplines.

A brief list of topics to be covered:
- Introduction of BME
- Cellular fundamentals, stem cells and cell culture
- Tissue engineering
- Biomaterials
- Biomedical implants and devices

Required Textbooks/Other Course Materials
No required textbooks. The covered content is adapted from the following textbook and other current literatures. All lecture notes will be posted on Canvas after class.
### Major Assignments and Grading:

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<thead>
<tr>
<th>Assignment</th>
<th>Percentage</th>
<th>Grade</th>
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<tbody>
<tr>
<td>Class Participation</td>
<td>10%</td>
<td>A</td>
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<tr>
<td>Homework</td>
<td>20%</td>
<td>B</td>
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<tr>
<td>Mini Presentation</td>
<td>10%</td>
<td>C</td>
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<td>Exams x3</td>
<td>45%</td>
<td>D</td>
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<tr>
<td>Laboratory</td>
<td>15%</td>
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### Important Dates

- MLK Holiday: 1/20 (no class)
- Exam 1: 2/19 (8:30-9:20 am)
- Spring Break: 3/9-13 (no class)
- Exam 2: 3/30 (8:30-9:20 am)
- Exam 3: 5/4 (8:30-9:30 am)

### Homework

- Homework will be due on the designated time in class unless otherwise stated. The lowest homework grade will be dropped off.
- Late policy: same day after 12 pm – 80%; next day – 50%; third day – 0%.

### Mini Presentation

- Each student will give one in-class mini presentation every other week, 5 total mini presentations during the semester.
- Each mini presentation should be prepared as PowerPoint format (no more than 3 slides) within 3-5 minutes.
- Topics of mini presentation should be selected from previous week, course-related, non-journal article or news, within 5 years (2015-2019).
- Late policy: next class – 50%; two classes – 20%; three classes – 0%.

### Exams

- Three sectional exams will be given during the semester. Each exam cover materials from the previous lecture section only. Exam questions will be a combination of multiple choices, true/false, short answers, fill in the blanks, matching, etc.
- Make-up exams will not be given without university-approved permission. [https://policy.unt.edu/sites/default/files/06.039_StudAttnandAuthAbsence.Pub2_.19.pdf](https://policy.unt.edu/sites/default/files/06.039_StudAttnandAuthAbsence.Pub2_.19.pdf)
- Students who have more than two final examinations scheduled on one day may request to reschedule one of the examinations on another day during the final examination period as follows: [https://registrar.unt.edu/exams/exam-policies](https://registrar.unt.edu/exams/exam-policies)
Registration, Drop and Withdrawal Policy

Drop: It is the student’s responsibility, and not the instructor’s, to drop the course. You may find important details about how dropping a class can affect your GPA and your Financial Aid here: http://registrar.unt.edu/registration/dropping-class

Withdrawal: It is the student’s responsibility to withdraw from the course by either going to their academic advisor’s office (which should be the first stop when considering a withdraw), the Registrar’s office, or the Department. If you can’t complete the course, you must withdraw for a “W” (after this date, you’d receive either a “WP” or a “WF”). Withdrawing from a course is a formal procedure which YOU must initiate. I can’t do it for you. If you simply stop attending and do not withdraw, you will receive a performance grade, usually an “F.” All deadlines can be found at: http://registrar.unt.edu/registration/fall-registration-guide

Academic Misconduct:
https://policy.unt.edu/sites/default/files/06.003.AcadIntegrity.Final_.pdf
UNT promotes the integrity of learning and embraces the core values of trust and honesty. According to UNT Policy 06.003, Student Academic Integrity, academic dishonesty occurs when students engage in behaviors including, but not limited to cheating, fabrication, facilitating academic dishonesty, forgery, plagiarism, and sabotage. A finding of academic dishonesty may result in a range of academic penalties or sanctions ranging from admonition to expulsion from the University.

Cheating: Copying from another student’s test paper, written assignment, other report, or computer files and listings; Using, during any academic exercise, material and/or devices not authorized by the person in charge of the test; Collaborating with or seeking aid from another student during a test or laboratory without permission; Knowingly using, buying, selling, stealing, transporting, or soliciting in its entirety or in part, the contents of a test or other assignment unauthorized for release; Substituting for another student or permitting another student to substitute for oneself.

Plagiarism: The appropriation, theft, purchase or obtaining by any means another’s work, and the unacknowledged submission or incorporation of that work as one’s own offered for credit. Appropriation includes the quoting or paraphrasing of another’s work without giving credit therefore. This especially applies to online resources. Turnitin will be utilized to ensure online resources are not misappropriated.

Any work not meeting this standard will be evaluated and subject to either a re-write, if the Instructor concludes that the assignment was unintentionally plagiarized or a zero for the assignment. Egregious forms of academic conduct are subject to a formal hearing.

Collusion: The unauthorized collaboration with another in preparing work offered for credit.
Disability Accommodation for Students and Academic Units

https://policy.unt.edu/sites/default/files/16.001_StudentAccommodation.2018Pub2_0.pdf

UNT does not discriminate on the basis of disability in admission, treatment, or access to its programs or activities, nor in employment in its programs or activities. The University is committed to providing equal educational access for qualified students with disabilities in accordance with state and federal laws. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide a student with an accommodation letter to be delivered to faculty to begin a private discussion regarding one’s specific course needs. Students may request accommodations at any time; however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information see the ODA website (https://disability.unt.edu/).

Sexual Discrimination, Harassment and Assault

UNT is committed to providing a safe learning environment free of all forms of sexual misconduct, including sexual harassment sexual assault, domestic violence, dating violence, and stalking. Federal laws (Title IX and the Violence Against Women Act) and UNT policies prohibit discrimination on the basis of sex, and therefore prohibit sexual misconduct. If you or someone you know is experiencing sexual harassment, relationship violence, stalking, and/or sexual assault, there are campus resources available to provide support and assistance. UNT’s Survivor Advocates can assist a student who has been impacted by violence by filing protective orders, completing crime victim’s compensation applications, contacting professors for absences related to an assault, working with housing to facilitate a room change where appropriate, and connecting students to other resources available both on and off campus. The Survivor Advocates can be reached at SurvivorAdvocate@unt.edu or by calling the Dean of Students Office at 940-565-2648. Additionally, alleged sexual misconduct can be non-confidentially reported to the Title IX Coordinator at oeo@unt.edu or at (940) 565 2759.

Personal Distress

Excerpts from http://studentaffairs.unt.edu/care “The University of North Texas cares about our students' success, not only academically, but emotionally and physically…. Because of our commitment, we provide literally hundreds of departments and services across campus that respond to our students' unique needs…. UNT believes it is important to foster an environment that encourages students to maintain a standard of responsibility for self-care which includes the ability to respond adequately to one's emotional, physical, and educational needs. If you are experiencing physical or emotional distress which adversely affects your ability to succeed in class, please see me as soon as possible. Together, we will point you towards the appropriate resources.