Instructor Information

Instructor(s):
Liping Tang

Office Number:
Engineering Research Building Room #238

Office Telephone Number:
817-272-6075

Email Address:
Ltang@uta.edu

Faculty Profile
https://mentis.uta.edu/explore/profile/liping-tang
https://www.uta.edu/engineering/research/faculty/tang.php

Office Hours
Monday and Wednesday 1:00–2:30 pm

Course Information

Section Information
BE 5364-005/BE 4364-005

Time and Place of Class Meetings
Monday and Wednesday 2:30–3:50 pm, Engineering Research Building #130.

Description of Course Content
Provide basic knowledge related to the designs, fabrication, characterization, research and their FDA approval processes of tissue engineering products.

Student Learning Outcomes
To provide students with a broad understanding of the key topics in tissue engineering.
To develop the student's ability to design, fabricate and engineer tissue engineering products.
To teach student critical thinking skills through the literature search and interactive discussion (including student presentations).
To give students knowledge of how the medical device industry is regulated and the route to market of tissue-engineered products.

Required Textbooks and Other Course Materials:
No textbook is required.

Descriptions of major assignments and examinations
One written closed book in-class exam, several assignments, and two assigned topic presentations.
Grading Information

Grading
The final grade will be calculated based on the in-class written exam (Exam I), several assignments and two project presentations at the following percentages.

- **Written Exam (25%)**
- **Assignments (25%)**
- **Presentation #1 (Project Development Project) (25%)--Group score (10%), and Individual score (based on peer evaluation and participation in discussions) (15%)**
- **Presentation #2 (Final Project) Presentation (25%)--Group score (10%), and Individual score (based on peer evaluation and participation in discussions) (15%)**

Students are expected to keep track of their performance throughout the semester which Canvas facilitates and seek guidance from available sources (including the instructor) if their performance drops below satisfactory levels; see “Student Support Services,” below.

Make-up Exams:
NO make-up exam will be offered.

Expectations for Out-of-Class Study:
Beyond the time required to attend each class meeting, students enrolled in this course should expect to spend at least an additional 9 hours per week of their own time in course-related activities, including reading required materials, completing assignments, preparing for exams, etc.

Grade Grievances:
Any appeal of a grade in this course must follow the procedures and deadlines for grade-related grievances as published in the current University Catalog.

Course Schedule

BASIC KNOWLEDGE OF TISSUE ENGINEERING

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
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<tbody>
<tr>
<td>Aug 21 (Wed)</td>
<td>Class introduction. An introduction to tissue engineering</td>
</tr>
<tr>
<td>Aug 26 (Mon)</td>
<td>Cell source, culture, and seeding for tissue engineering (Dr. YiHui Huang)</td>
</tr>
<tr>
<td>Aug 28 (Wed)</td>
<td>Bioreactors (Dr. Amir Hakami)</td>
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<tr>
<td>Sep 2 (Mon)</td>
<td>No class (Labor Day).</td>
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<tr>
<td>Sep 4 (Wed)</td>
<td>Hydrogel for tissue engineering and drug delivery (Dr. Jun Zhou)</td>
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<tr>
<td>Sep 9 (Mon)</td>
<td>Degradable polymers.</td>
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<tr>
<td>Sep 11 (Wed)</td>
<td>Scaffold fabrication.</td>
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<tr>
<td>Sep 16 (Mon)</td>
<td>Scaffold characterization.</td>
</tr>
<tr>
<td>Sep 18 (Wed)</td>
<td>Growth factors for tissue engineering</td>
</tr>
<tr>
<td>Sep 23 (Mon)</td>
<td>Stem cell tissue engineering</td>
</tr>
<tr>
<td>Sep 25 (Wed)</td>
<td>Foreign body reactions</td>
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<tr>
<td>Sep 30 (Mon)</td>
<td>Written exam.</td>
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</tbody>
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TISSUE ENGINEERING PRODUCT DEVELOPMENT

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
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<tbody>
<tr>
<td>Oct 2 (Wed)</td>
<td>Introduction of Tissue Engineering Products</td>
</tr>
<tr>
<td>Oct 7 (Mon)</td>
<td>Tissue engineering - special topic. (Bone tissue engineering)</td>
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<tr>
<td>Oct 9 (Wed)</td>
<td>Tissue engineering - special topic.</td>
</tr>
<tr>
<td>Oct 14 (Mon)</td>
<td>Tissue engineering - special topic. (Cartilage tissue engineering)</td>
</tr>
<tr>
<td>Oct 16 (Wed)</td>
<td>FDA submission (Dr. Ashwin Nair)</td>
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<tr>
<td>Oct 21 (Mon)</td>
<td>Tissue engineering - special topic. (Vascular tissue engineering)</td>
</tr>
<tr>
<td>Oct 23 (Wed)</td>
<td>Tissue engineering - special topic.</td>
</tr>
<tr>
<td>Oct 28 (Mon)</td>
<td>Tissue engineering - special topic.</td>
</tr>
<tr>
<td>Oct 30 (Wed)</td>
<td>Study design presentation</td>
</tr>
</tbody>
</table>
Nov 4 (Mon): Tissue engineering - special topic.
Nov 6 (Wed): Tissue engineering - special topic.
Nov 11 (Mon): Tissue engineering - special topic.
Nov 13 (Wed): Tissue engineering - special topic.
Nov 18 (Mon): Tissue engineering - special topic.
Nov 20 (Wed): Final presentation – Group A.
Nov 25 (Mon): Final presentation – Group B.
Nov 27 (Wed): No class (Thanksgiving).

“As the instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course.—Liping Tang.”

Institution Information

UTA students are encouraged to review the below institutional policies and informational sections and reach out to the specific office with any questions. To view this institutional information, please visit the Institutional Information page (http://www.uta.edu/provost/administrative-forms/course-syllabus/index.php) which includes the following policies among others:

- Drop Policy
- Disability Accommodations
- Title IX Policy
- Academic Integrity
- Student Feedback Survey
- Final Exam Schedule

Additional Information

Attendance:
At The University of Texas at Arlington, taking attendance is not required but attendance is a critical indicator of student success. Each faculty member is free to develop his or her own methods of evaluating students’ academic performance, which includes establishing course-specific policies on attendance. As the instructor of this section, I will take attendance sporadically. However, while UT Arlington does not require instructors to take attendance in their courses, the U.S. Department of Education requires that the University have a mechanism in place to mark when Federal Student Aid recipients “begin attendance in a course.” UT Arlington instructors will report when students begin attendance in a course as part of the final grading process. Specifically, when assigning a student a grade of F, faculty report must the last date a student attended their class based on evidence such as a test, participation in a class project or presentation, or engagement online via Canvas. This date is reported to the Department of Education for federal financial aid recipients.

Emergency Exit Procedures:
Should we experience an emergency event that requires the evacuation of the building, students should exit the room and move toward the nearest exit. When exiting the building during an emergency, do not take an elevator but use the stairwells instead. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

Student Support Services:
UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring by appointment, drop-in tutoring, mentoring (time management, study skills, etc.), major-based learning centers, counseling, and federally funded programs. For individualized referrals, students may call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at Resource Hotline (http://www.uta.edu/studentsuccess/success-programs/programs/resource-hotline.php).
IDEAS Center:
The IDEAS Center (https://www.uta.edu/ideas/) (2nd Floor of Central Library) offers FREE tutoring and mentoring to all students with a focus on transfer students, sophomores, veterans, and others undergoing a transition to UT Arlington. Students can drop in or check the schedule of available peer tutors at www.uta.edu/IDEAS, or call (817) 272-6593.

The English Writing Center (411LIBR):
The Writing Center offers FREE tutoring in 15-, 30-, 45-, and 60-minute face-to-face and online sessions to all UTA students on any phase of their UTA coursework. Register and make appointments online at the Writing Center (https://uta.mywcone.com). Classroom visits, workshops, and specialized services for graduate students and faculty are also available. Please see the Writing Center: OWL for detailed information on all our programs and services.

The Library’s 2nd floor Academic Plaza (http://library.uta.edu/academic-plaza) offers students a central hub of support services, including IDEAS Center, University Advising Services, Transfer UTA and various college/school advising hours. Services are available during the library’s hours of operation.

Librarian to Contact:
Each academic unit has access to Librarians by Academic Subject that can assist students with research projects, tutorials on plagiarism and citation references as well as support with databases and course reserves.

Emergency Phone Numbers

In case of an on-campus emergency, call the UT Arlington Police Department at 817-272-3003 (non-campus phone), 2-3003 (campus phone). You may also dial 911. Non-emergency number 817-272-3381

Library Information

Research or General Library Help
Ask for Help
- Academic Plaza Consultation Services (library.uta.edu/academic-plaza)
- Ask Us (ask.uta.edu/)
- Research Coaches (http://libguides.uta.edu/researchcoach)

Resources
- Library Tutorials (library.uta.edu/how-to)
- Subject and Course Research Guides (libguides.uta.edu)
- Librarians by Subject (library.uta.edu/subject-librarians)
- A to Z List of Library Databases (libguides.uta.edu/az.php)
- Course Reserves (https://uta.summon.serialssolutions.com/#!/course_reserves)
- Study Room Reservations (openroom.uta.edu/)

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