



Tissue Engineering Lecture
Fall 2015
Tuesday and Thursday 11:00 am – 12:20 pm,
Engineering Research Building 131.

Instructor(s): Liping Tang

Office Number: 238 Engineering Research Building

Email Address: ltang@uta.edu

Faculty Profile: <https://www.uta.edu/profiles/liping-tang>

Office Hours: Email appointment

Section Information: BE 5364-005 / BE4364-005

Teaching Assistant: Ashley Dacy, ashley.dacy@mavs.uta.edu

Description of Course Content: Provide broad knowledge related to the designs, research and applications in tissue engineering.

Student Learning Outcomes: Acquire the necessary knowledge, design logic, and research techniques to work on tissue engineering implants and devices.

Textbooks and Other Course Materials: No textbook is required. All class materials can be found in the blackboard (B5364).

Reference: Principle of Tissue Engineering, 4rd edition, Edited by Robert P Lanza, Robert Langer, and Joseph Vancanti, Academic Press, 2013

Examinations: For written open-book in-class exams.

Grading: The final grade will be calculated based on four in-class written exams at the following percentages.

Exam I (20%), Exam II (20%), Exam III (25%), and Exam IV (25%), and Participation score (10%)

Students are expected to keep track of their performance throughout the semester 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.

Drop Policy: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance.** Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing.

For more information, contact the Office of Financial Aid and Scholarships (<http://www.uta.edu/aao/fao/>).

Americans with Disabilities Act: The University of Texas at Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including the *Americans with Disabilities Act (ADA)*. All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability or by calling the Office for Students with Disabilities at (817) 272-3364.

Title IX: The University of Texas at Arlington is committed to upholding U.S. Federal Law "Title IX" such that no member of the UT Arlington community shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity. For more information, visit www.uta.edu/titleIX.

Academic Integrity: Students enrolled in this course are expected to adhere to the UT Arlington Honor Code:

I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.

I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

UT Arlington faculty members may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents' Rule* 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University.

Electronic Communication: UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at <http://www.uta.edu/oit/cs/email/mavmail.php>.

Student Feedback Survey: At the end of each term, students enrolled in classes categorized as "lecture," "seminar," or "laboratory" shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by

state law; students are strongly urged to participate. For more information, visit <http://www.uta.edu/sfs>.

Emergency Exit Procedures: Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities (**Emergency/Fire Evacuation Procedures** (<https://www.uta.edu/policy/procedure/7-6>)).

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, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at www.uta.edu/resources.

Writing Center.: The Writing Center, 411 Central Library, offers individual 40 minute sessions to review assignments, *Quick Hits* (5-10 minute quick answers to questions), and workshops on grammar and specific writing projects. Visit <https://uta.mywconline.com/> to register and make appointments. For hours, information about the writing workshops we offer, scheduling a classroom visit, and descriptions of the services we offer undergraduates, graduate students, and faculty members, please visit our website at www.uta.edu/owl/.

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.

Course Schedule.

Aug 27 (Thu):	Class introduction (Reading material -A).
Sep 1 (Tue):	Introduction of tissue engineering (Reading material –B).
Sep 3(Thu):	Degradable polymers (Reading material – C).
Sep 8 (Tue):	Scaffold fabrication (Dr. Ashwin Nair) (Reading material – D).
Sep 10 (Thu):	3D scaffold printing (Ashley Dacy) (Reading material – E).
Sep 15 (Tue):	Cell type, source, culture and cell seeding for tissue engineering (Reading material –F).
Sep 17 (Thu):	Scaffold: Cell interactions (Reading material –G).
Sep 22 (Tue):	Exam I.
Sep 24 (Thu):	Scaffold characterization (Reading material –H).
Sep 29 (Tue):	Stem cell and tissue engineering (Reading material –I).
Oct 1 (Thu):	Growth factors for tissue engineering (Reading material –J).
Oct 6 (Tue):	Cell encapsulation (Amir Hakami) (Reading material –K).

Oct 8 (Thu):	Hydrogel for tissue engineering and drug delivery (Dr. Jun Zhou) (Reading material – L).
Oct 13 (Tue):	Bioimaging for TE (Reading material –M)
Oct 15 (Thu):	Exam II
Oct 20 (Tue):	Cartilage tissue engineering (Ashley Dacy) (Reading material –N).
Oct 22 (Thu):	Literature review – Cartilage tissue engineering (Ashley Dacy) (Reading material –N).
Oct 27 (Tue):	Foreign body reactions (Reading material –O).
Oct 29 (Thu):	Bone tissue engineering (Reading material –P).
Nov 3 (Tue):	FDA regulation (Reading material –Q).
Nov 5 (Thu):	Bioreactors (Amir Hakami) (Reading material –R).
Nov 10 (Tue):	Exam III
Nov 12 (Thu):	Tendon/Ligment tissue engineering-1 (Reading material –S).
Nov 17 (Tue):	Tendon/Ligment tissue engineering-2 (Reading material –S).
Nov 19 (Thu):	Muscle tissue engineering-1 (Reading material –T).
Nov 24 (Tue):	Current progress in tissue engineering (videos)
Nov 26 (Thu):	Thanksgiving holiday (No class).
Dec 1 (Tue):	Muscle tissue engineering-2 (Reading material –T).
Dec 3 (Tur):	Decellularized ECM for tissue engineering (Dr. Yi Hong) (Reading material –U).
Dec 8 (Tue):	Exam IV

“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”

Library Home Page	http://www.uta.edu/library
Subject Guides.....	http://libguides.uta.edu
Subject Librarians	http://www.uta.edu/library/help/subject-librarians.php
Database List	http://www.uta.edu/library/databases/index.php
Course Reserves	http://pulse.uta.edu/vwebv/enterCourseReserve.do
Library Catalog	http://discover.uta.edu/
E-Journals.....	http://liblink.uta.edu/UTALink/az
Library Tutorials	http://www.uta.edu/library/help/tutorials.php
Connecting from Off- Campus.....	http://libguides.uta.edu/offcampus
Ask A Librarian.....	http://ask.uta.edu

The following URL houses a page where we have gathered many commonly used resources needed by students in online courses: <http://www.uta.edu/library/services/distance.php>.

The subject librarian for your area can work with you to build a customized course page to support your class if you wish. For examples, visit <http://libguides.uta.edu/os> and <http://libguides.uta.edu/pols2311fm> . If you have any questions, please feel free to contact Suzanne Beckett, at sbeckett@uta.edu or at 817.272.0923.