BSC 523 01W The Plant Microbiome

Courses Syllabus: Spring, 2026

Instructor: Dr. Lin Guo
Office location: Science building 353
Email: Lin.Guo@etamu.edu
Office hr: 8:00–5:00 pm online M-F

Classroom: Web based class **Time: 1/12/26-5/8/26**

Text Book: No book is required. The teaching materials or link of resources are provided in D2L.

Course Description: This graduate course provides an overview of the concepts of plant microbiome; gives an insight into the dynamic relationships between plant and microorganisms; covers various aspects about the use of plant-microbiome interaction for nutrients uptake, nitrogen fixation, carbon sequestration, pollutants cleaning and soils/plants health improvement.

Instructional Method: Lecture, discussions, quizzes, and papers; **51% face to face; 49% on line.** Meeting time is 8:30 am-10:00 am Every Monday in BSC 353.

Learning Objectives: Upon completion of this course, you should be able to:

1. Demonstrate a deep knowledge about plant microbiome and the interactions between plants and microorganisms
2. Know the current techniques related to plant microbiome research
3. Understand how plant associated microorganisms help with plant growth and contaminants removal by phytoremediation
4. Critically analyze the current research related to plant microbiome
5. Propose new questions in plant microbiome research

Evaluations:

quizzes	50 points	A≥90%
Term-paper	20 points	B≥80%
Discussions	20 points	C≥70%
Article review	10 points	D≥60%
Final exam	50 points	F<60%
Total	150 points	

Quizzes: please complete quizzes after studying the lecture of **some units** on D2L.

Article Review: Read the assigned article about current plant microbiome and write a review. The review should be typed (12 pt font, 1.5 line spacing) and include two full paragraphs. First, conclude the main contents of the article (about one half to one page). In the second paragraph (about one half to one page), please critique of the article with substantive or evidence-driven arguments for or against the opinions of the article (e.g. whether you like the article and why). The reviews must be sent to the assignment submission folder in D2L **before 5 pm on Feb 28**. Source of information must be cited and referenced.

Term-paper: Write a term paper to discuss a case study of microorganisms assisted **phytoremediation project**; In this paper, you will need to introduce the background of the project, the details of the project (e.g. the microorganisms used, the interactions between plants and microorganisms, etc), the results of the project, and the suggestions for future; Use 12 pt font, 1.5 line spacing; more than 4 pages; Due on or **before 5 pm on April 30**; Source of information must be cited and referenced.

Discussion: Participate in the online discussions. Post your own thoughts. Post **at least one** comment to each question posed by the instructor. Read the postings of others and respond (**at least two** peer review responses are needed). Your level of participation - both quantity and quality - is part of your participation grade. Discussions will open for one week. It will close at **midnight** of Friday. I encourage you to do it as earlier as possible.

All the assignments are expected to be submitted on time

Topics:

Jan 12-23: Overview of microorganisms

Jan 26-Feb 6: Basics of plant microbiome

Feb 9-20: Plant microbiome and plant health

Feb 23-Mar 6: Environmental pollution and bioremediation

Mar 16-27: Microorganisms for phytoremediation

Mar 30-Apr 10: Microorganisms for carbon sequestration

Apr 13-24: Plant microbiome in practice

Apr 27-May 1: Future research about plant microbiome

May 4-8: Final exam

University Procedures:

Attendance:

The teaching/learning materials will be posted in D2L. Students have access to those materials anytime. However, all the assignments and quizzes are expected to be finished on time.

For more information about the attendance policy please visit the Attendance webpage and Procedure 13.99.99.R0.01. http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf

Students with Disabilities:

The Americans with Disabilities Act (ADA) prohibits discrimination against people with disabilities in employment, transportation, public accommodation, communications, and governmental activities.

If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services

Gee Library- Room 132

Phone (903) 886-5150 or (903) 886-5835 Fax (903) 468-8148 Email: Rebecca.Tuerk@tamuc.edu

Website: Office of Student Disability Resources and Services

http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServ ices/

Academic Integrity:

Students at East Texas A&M University are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

Undergraduate Academic Dishonesty 13.99.99.R0.03

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf

Graduate Student Academic Dishonesty 13.99.99.R0.10

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.pdf

Nondiscrimination Notice:

East Texas A&M University will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

Student Conduct:

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the Student Guidebook.

http://www.tamuc.edu/admissions/registrar/documents/studentGuidebook.pdf

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: Netiquette http://www.albion.com/netiquette/corerules.html

Campus carry rules:

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in East Texas A&M University buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations. For a list of locations, please refer to (http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf) and/or consult your event organizer). Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

Technology Requirement

D2L Access and Log in Information

This course will be facilitated using D2L, the learning management system used by East Texas A&M University. To get started with the course, go to myLeo, then select Apps, and then select myleo online (D2L Brightspace).

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@tamuc.edu.

If you are having technical difficulty with any part of D2L Brightspace, please contact Brightspace

Technical Support at 1-877-325-7778.

Interaction with Instructor Statement

If you have questions pertaining to the content of this course, please contact me via email or office time. Generally, emails will be answered within 24 hrs. If I can not answer emails on time, I will let you know in advance.

AI Statement

East Texas A&M University acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.

Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).

Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors' guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.

In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources.

13.99.99.R0.03 Undergraduate Academic Dishonesty

https://inside.tamuc.edu/aboutus/policiesproceduresstandardsstatements/rulesprocedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf

13.99.99.R0.10 Graduate Student Academic Dishonesty

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