

Course Syllabus

Course Information

BIOL 1320, Microbial World with Lab, Fall 2007. Class meets Tuesdays at 11:30-1:30 in MP 2.202 (Lab) and on Thursdays at 11:30-1:30 in CB 1.114 (Lecture)

Professor Contact Information

Dr. Suma S Robinson. Phone: 972 883 4588 e-mail: sxs022500@utdallas.edu.
Office: FN 3.104, Office hours: 9:00-10:00 am, TR or by appointment

Course Pre-requisites, Co-requisites, and/or Other Restrictions

There are no pre-requisites for this course

Course Description

In this course, we will explore microorganisms and how they affect the biochemical processes that influence Earth as an ecosystem as well as human life. Involvement of microbes in many aspects of our daily lives, from helping to create the air we breathe to the production of foods (such as bread, cheese) and beverages (beer, wine) will also be discussed. A general overview of microbiology and an introduction to the diversity of microbial life will also be part of the course as also microorganisms affecting human health. In the accompanying laboratory, hands-on experimentation will introduce students to the microbial world and demonstrate the versatility of these organisms. This course is specifically designed for non-majors.

Student Learning Objectives/Outcomes

1. In exploration of the microbial world, students will be able to identify and explain biochemical processes, the structure and function of microbial systems and their application to human life.
2. Be able to apply and implement basic lab techniques related to microbiology such as study of microbial enzymatic and biochemical ability, ecology and applied microbiology including food microbiology and serology
3. Students will be able to explain how microbiology is applied in the modern world, these topics include water and sewage treatment, microbiological aspects of both. They will also be expected to be familiar with microbial genetics

4. Students will be able to describe and explain topics concerning food microbiology such as principles of food intoxication as well as food borne diseases
5. Students will explain characteristics of diseases as well as the essential influence of microorganisms on human life and all ecosystems on Earth
6. Students will be introduced to virology and study of disease causing organisms smaller than viruses such as prions

Required Textbooks and Materials

Text: *Microbiology, Principles and Explorations* by J.G. Black (5th edition, 2001). ISBN: 0-471-38729-0

Suggested Course Materials

Laboratory Manual (optional) *Lab Exercises in Microbiology* by Robert A. Pollack, Lorraine Findlay, Walter Mondschein, R. Ronald Modesto Paperback, January 2000

Assignments & Academic Calendar

Date	Lecture	Lab	Topic
Aug 16	X		Ch 1 (pages 4 to 25) and Chapter 2 (pages 28- 47)
Aug 21		X	<i>Introduction; Safety</i>
Aug 23	X		Ch 3 (pages 50-63) and Chap 4 (73-101)
Aug 28		X	<i>Light microscopy, observation of prokaryotic and eukaryotic prepared slides</i>
Aug 30	X		LECTURE EXAM -I (FIRST HOUR) Growth and culture of microorganisms, Ch 6
Sept 4		X	<i>Culture Media and Aseptic Technique</i>
Sept 6	X		Microbial Diversity: Bacteria; Ch. 9; Chapter 3 (pages 63 to 68)
Sept 11		X	<i>Observing Bacteria: Stains</i>
Sept 13	X		Microbial Diversity: Fungi, Algae, Protozoa; Ch. 11 (pages 285-300)
Sept 18		X	<i>Survey of Organisms: Fungi, Algae, Cyanobacteria and Protozoa</i>
Sept 20	X		LECTURE EXAM –II (1st hour); Chap 14 (pages 370 – 389)
Sept 25		X	FIRST LABORATORY PRACTICAL EXAM
Sept 27	X		Epidemiology Chap 15 (pages 393 – 419)

Oct 2		X	<i>Epidemiology</i>
Oct 4	X		Sterilization and Disinfection, Ch 12 (pages 314 – 331) ; Ch 13 (pages 336 – 348)
Oct 9		X	<i>Antiseptics, Disinfectants, and Antibiotics</i>
Oct 11	X		Basic principles of immunology, chap 17 (pages 446 – 474)
Oct 16		X	<i>Serology</i>
Oct 18	X		LECTURE EXAM-III (First hour) Microbes and the Environment, water microbiology Ch 25
Oct 23		X	<i>Microorganisms in Soil and water</i>
Oct 25	X		Applied microbiology, chap 26 (pages 754 – 759) Biotechnology Chapter 8 pages 208-217
Oct 30		X	<i>Applied microbiology experiment</i>
Nov 1	X		Food Microbiology; Ch. 26 (pages 734-754)
Nov 6		X	<i>Microorganisms in Food/Food Microbiology</i>
Nov 8	X		Microbial genetics Chapter 7
Nov 13		X	<i>Genetics experiment</i>
Nov 15	X		Virology (pages 255 to 280)
Nov 20			SECOND LABORATORY PRACTICAL EXAM
Nov 27		X	LECTURE EXAM IV 11:00 AM

Grading Policy

Points.

First lecture exam: 50

First lab exam: 50

Second lecture exam: 50

Final lab exam: 50

Third lecture exam: 50

Lab reports (5 points each lab): 65

Fourth lecture exam: 50

Total: 200

Total: 165

Your final grade will be calculated based on the points made out of **365** points, grades are calculated according to the following scale: 90% and above is an A; 90-93% is an A minus, 94-96% is an A and above 96% is an A plus

Course & Instructor Policies

1. Exams will be a combination of multiple choice and essay type questions which will be based on material covered up to the last lecture before the exam.
2. Lab exam will be based on techniques learned up to the last lab before the exam.
3. Students are expected to read lecture chapters and laboratory exercises prior to class.
4. Unless specifically instructed otherwise, each student is expected to work independently on all assignments.
5. Academic dishonesty in any form will not be tolerated and will be handled according to the rules and procedures of the University of Texas at Dallas.
6. As this class is taught as an independent course, make up labs are difficult to arrange; your presence in the lab during normal scheduled hours is therefore very important.

Unless there is a documented medical emergency, no make-up labs or exams or quizzes will be possible

Technical Support

If you experience any problems with your UTD account you may send an email to: assist@utdallas.edu or call the UTD Computer Helpdesk at 972-883-2911.

Field Trip Policies

Off-campus Instruction and Course Activities

Off-campus, out-of-state, and foreign instruction and activities are subject to state law and University policies and procedures regarding travel and risk-related activities. Information regarding these rules and regulations may be found at the website address http://www.utdallas.edu/BusinessAffairs/Travel_Risk_Activities.htm. Additional information is available from the office of the school dean. Below is a description of any travel and/or risk-related activity associated with this course.

Student Conduct & Discipline

The University of Texas System and The University of Texas at Dallas have rules and regulations for the orderly and efficient conduct of their business. It is the responsibility of each student and each student organization to be knowledgeable about the rules and regulations which govern student conduct and activities. General information on student conduct and discipline is contained in the UTD printed publication, *A to Z Guide*, which is provided to all registered students each academic year.

The University of Texas at Dallas administers student discipline within the procedures of recognized and established due process. Procedures are defined and described in the *Rules and Regulations, Series 50000, Board of Regents, the University of Texas System*, and in Title V, Rules on Student Services and Activities of the university's *Handbook of Operating Procedures*. Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations (SU 1.602, 972/883-6391) and online at <http://www.utdallas.edu/judicialaffairs/UTDJudicialAffairs-HOPV.html>

A student at the university neither loses the rights nor escapes the responsibilities of citizenship. He or she is expected to obey federal, state, and local laws as well as the Regents' Rules, university regulations, and administrative rules. Students are subject to discipline for violating the standards of conduct whether such conduct takes place on or off campus, or whether civil or criminal penalties are also imposed for such conduct.

Academic Integrity

The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrate a high standard of individual honor in his or her scholastic work.

Scholastic Dishonesty, any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.

Plagiarism, especially from the web, from portions of papers for other classes, and from any other source is unacceptable and will be dealt with under the university's policy on plagiarism (see general catalog for details). This course will use the resources of turnitin.com, which searches the web for possible plagiarism and is over 90% effective.

Copyright Notice

The copyright law of the United States (Title 17, United States Code) governs the making of photocopies or other reproductions of copyrighted materials, including music and software. Copying, displaying, reproducing, or distributing copyrighted works may infringe the copyright owner's rights and such infringement is subject to appropriate disciplinary action as well as criminal penalties provided by federal law. Usage of such material is only appropriate when that usage constitutes "fair use" under the Copyright Act. As a UT Dallas student, you are required to follow the institution's copyright policy (Policy Memorandum 84-I.3-46). For more information about the fair use exemption, see <http://www.utsystem.edu/ogc/intellectualproperty/copypol2.htm>

Email Use

The University of Texas at Dallas recognizes the value and efficiency of communication between faculty/staff and students through electronic mail. At the same time, email raises some issues concerning security and the identity of each individual in an email exchange. The university encourages all official student email correspondence be sent only to a student's U.T. Dallas email address and that faculty and staff consider email from students official only if it originates from a UTD student account. This allows the university to maintain a high degree of confidence in the identity of all individual corresponding and the security of the transmitted information. UTD furnishes each student with a free email account that is to be used in all communication with university personnel. The Department of Information Resources at U.T. Dallas provides a method for students to have their U.T. Dallas mail forwarded to other accounts.

Withdrawal from Class

The administration of this institution has set deadlines for withdrawal of any college-level courses. These dates and times are published in that semester's course catalog. Administration procedures must be followed. It is the student's responsibility to handle withdrawal requirements from any class. In other words, I cannot drop or withdraw any

student. You must do the proper paperwork to ensure that you will not receive a final grade of "F" in a course if you choose not to attend the class once you are enrolled.

Student Grievance Procedures

Procedures for student grievances are found in Title V, Rules on Student Services and Activities, of the university's *Handbook of Operating Procedures*.

In attempting to resolve any student grievance regarding grades, evaluations, or other fulfillments of academic responsibility, it is the obligation of the student first to make a serious effort to resolve the matter with the instructor, supervisor, administrator, or committee with whom the grievance originates (hereafter called "the respondent"). Individual faculty members retain primary responsibility for assigning grades and evaluations. If the matter cannot be resolved at that level, the grievance must be submitted in writing to the respondent with a copy of the respondent's School Dean. If the matter is not resolved by the written response provided by the respondent, the student may submit a written appeal to the School Dean. If the grievance is not resolved by the School Dean's decision, the student may make a written appeal to the Dean of Graduate or Undergraduate Education, and the dean will appoint and convene an Academic Appeals Panel. The decision of the Academic Appeals Panel is final. The results of the academic appeals process will be distributed to all involved parties.

Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations.

Incomplete Grade Policy

As per university policy, incomplete grades will be granted only for work unavoidably missed at the semester's end and only if 70% of the course work has been completed. An incomplete grade must be resolved within eight (8) weeks from the first day of the subsequent long semester. If the required work to complete the course and to remove the incomplete grade is not submitted by the specified deadline, the incomplete grade is changed automatically to a grade of F.

Disability Services

The goal of Disability Services is to provide students with disabilities educational opportunities equal to those of their non-disabled peers. Disability Services is located in room 1.610 in the Student Union. Office hours are Monday and Thursday, 8:30 a.m. to 6:30 p.m.; Tuesday and Wednesday, 8:30 a.m. to 7:30 p.m.; and Friday, 8:30 a.m. to 5:30 p.m.

The contact information for the Office of Disability Services is:
The University of Texas at Dallas, SU 22
PO Box 830688
Richardson, Texas 75083-0688

(972) 883-2098 (voice or TTY)
disabilityservice@utdallas.edu

If you anticipate issues related to the format or requirements of this course, please meet with the Coordinator of Disability Services. The Coordinator is available to discuss ways to ensure your full participation in the course. If you determine that formal, disability-related accommodations are necessary, it is very important that you be registered with Disability Services to notify them of your eligibility for reasonable accommodations. Disability Services can then plan how best to coordinate your accommodations.

It is the student's responsibility to notify his or her professors of the need for such an accommodation. Disability Services provides students with letters to present to faculty members to verify that the student has a disability and needs accommodations. Individuals requiring special accommodation should contact the professor after class or during office hours.

Religious Holy Days

The University of Texas at Dallas will excuse a student from class or other required activities for the travel to and observance of a religious holy day for a religion whose places of worship are exempt from property tax under Section 11.20, Tax Code, Texas Code Annotated.

The student is encouraged to notify the instructor or activity sponsor as soon as possible regarding the absence, preferably in advance of the assignment. The student, so excused, will be allowed to take the exam or complete the assignment within a reasonable time after the absence: a period equal to the length of the absence, up to a maximum of one week. A student who notifies the instructor and completes any missed exam or assignment may not be penalized for the absence. A student who fails to complete the exam or assignment within the prescribed period may receive a failing grade for that exam or assignment.

If a student or an instructor disagrees about the nature of the absence [i.e., for the purpose of observing a religious holy day] or if there is similar disagreement about whether the student has been given a reasonable time to complete any missed assignments or examinations, either the student or the instructor may request a ruling from the chief executive officer of the institution, or his or her designee. The chief executive officer or designee must take into account the legislative intent of TEC 51.911(b), and the student and instructor will abide by the decision of the chief executive officer or designee.

These descriptions and timelines are subject to change at the discretion of the Professor.