COLLIN COUNTY COMMUNITY COLLEGE DISTRICT
LECTURE SECTION SYLLABUS

COURSE NUMBER: BIOL 2420

COURSE TITLE: Microbiology

COURSE DESCRIPTION

Classification, cell structure, metabolism, and historical concepts of microorganisms including bacteria, viruses, fungi, protozoa, Chlamydia and Rickettsia. Infectious diseases and immunology will be emphasized. Practical microbiology will include diagnostic microbiology of water, food, sewage, soil, and industrial applications. Laboratory methods are stressed, and experimentation with pure cultures of medical, environmental, and industrial importance is used extensively. Lab required. Prerequisite: BIOL 2402 with a grade of "C" or better within the last five years or consent of Department Chair. 4 credit hours.

CREDIT HOURS: 4 **LECTURE HOURS:** 3 **LAB HOURS:** 4

PRE-REQUISITE: BIOL 2401 within the last 3 years with a grade of "C" or higher, or consent of department chair.

PRE or CO-REQUISITE: BIOL 2402 (Lecture and Lab)

CO-REQUISITE: BIOL 2420 lab

COLLEGE REPEAT POLICY: A student may repeat this course only once after receiving a grade, including "W".

COURSE DELIVERY METHOD

Lectures will be combined with group discussions, and alternative learning methods (computer programs, interactive video software, slides, transparencies, films, etc.) will be used to augment lecture topics. Student presentations and research papers will also be used.

TEXTBOOK

"Microbiology: with Diseases by Taxonomy," Bauman 5th Edition
Modified (New Design) Mastering Microbiology

SUPPLIES

Required: Internet Access
Suggested: Notebook

STUDENT LEARNING OUTCOMES

1. Describe the distinctive characteristics of prokaryotic cells, and the diverse growth requirements of prokaryotic organisms.
2. Explain different ways that microbial growth can be controlled, and define the importance of selective toxicity in terms of treating infectious diseases. *(Empirical and Quantitative Skills)*
3. Explain the unique characteristics of bacterial metabolism and bacterial genetics, and discuss how antibiotic resistance and virulence mechanisms evolve in bacteria. *(Critical Thinking)*
4. Compare the characteristics and reproduction of acellular infectious agents (viruses and prions) with cellular infectious agents (bacteria, protozoa, and fungi)
5. Describe the function of host defenses and the immune system in combating infectious diseases, and explain how immunizations protect against specific diseases.
6. Explain the transmission and virulence mechanisms of cellular and acellular infectious agents, including key microbes such as HIV, Influenza A, *Staphylococcus aureus*, and *Mycobacterium tuberculosis*. *(Empirical and Quantitative Skills)*
7. Develop collaborative and communication skills while working with classmates to apply course concepts to practical solutions. *(Teamwork Skills, Communication Skills, Critical Thinking Skills)*

COURSE REQUIREMENTS

Lecture exams will be scheduled covering the text and lecture topics. Several group discussions will be held on assigned topics. The laboratory grade will be integrated with the lecture grade to produce the overall course grade at the end of the semester.

METHOD OF EVALUATION

Overall course grade: Lecture 65% Laboratory 35%

ATTENDANCE POLICY

Lecture attendance is mandatory. Individual conflicts with this policy are to be discussed with the instructor. Students who stop attending class and do not officially withdraw from the course will be assigned a grade of "F". **Religious Holy Days:** please refer to the current Collin Student Handbook. The last day to withdraw is during the 8th week of school on 10/19/2018.

AMERICAN DISABILITIES ACT STATEMENT

It is the policy of Collin County Community College to provide reasonable accommodations for qualified individuals who are students with disabilities. This College will adhere to all applicable federal, state and local laws, regulations and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the student's responsibility to contact the ACCESS office, SCC-D140 or 972.881.5898 (V/TTD: 972.881.5950) in a timely manner to arrange for appropriate accommodations.

COLLIN COLLEGE ACADEMIC POLICIES: See the current *Collin Student Handbook* and instructor addendum.

Every member of the Collin College community is expected to maintain the highest standards of academic integrity. All work submitted for credit is expected to be the student's own work. Collin College may initiate disciplinary proceedings against a student accused of scholastic dishonesty. Scholastic dishonesty includes, but is not limited to, statements, acts, or omissions related to applications for enrollment or the award of a degree, and/or the submission as one's own work material that is not one's own. Scholastic dishonesty may involve, but is not limited to, one or more of the following acts: cheating, plagiarism, collusion, use of annotated texts or teacher's editions, use of information about exams posted on the Internet or electronic medium, and/or falsifying academic records. While specific examples are listed below, this is not an exhaustive list and scholastic dishonesty may encompass other conduct, including any conduct through electronic or computerized means.

General Scholastic Dishonesty includes, but is not limited to, statements, acts, or omissions related to applications for enrollment, credit or class work, research, or the award of a degree; and/or falsifying academic records or documents. Students are expected to record honestly and accurately the results of all their research. Falsification of research results shall include misrepresentations, distortions, or omissions in data or reports on research.

Plagiarism includes, but is not limited to, intentionally or unintentionally failing to quote and cite an author's words, information, and/or ideas in accordance with American Psychological Association (APA) Style, Modern Language Association (MLA) Style, The Chicago Manual of Style (Chicago Style), or another citation style approved by the professor. In cases where an incident report has been filed for an alleged violation of scholastic dishonesty, the faculty member shall delay posting a grade for the academic work in question

Cheating includes, but is not limited to, having access to unauthorized materials or electronic, digital media, telecommunication, and/or wearable devices (i.e., phones, smart watches, Fitbits, Bluetooth devices, tablets, etc.) during an examination; the giving or receiving of information in an unauthorized manner during an examination or to complete an assignment; using, buying, selling, soliciting, stealing, or otherwise obtaining course assignments and/or examination questions in advance; using someone else's work for an assignment as if it were one's own; submitting or resubmitting an assignment in whole or in part (i.e., recycling an assignment) for more than one (1) class or institution without permission from each of the professors; using annotated texts or teacher's editions; using information about exams posted on the Internet or in any electronic medium; leaving a test site without authority; failing to secure test materials; removing tests or answer sheets from a test site; and any other dishonest means of attempting to fulfill the requirements of a course.

Collusion includes, but is not limited to, intentionally or unintentionally aiding or attempting to aid another in an act of scholastic dishonesty; failing to secure academic work; providing a paper or project to another student; providing an inappropriate level of assistance; unauthorized collaboration or communicating answers to a classmate about an examination or course assignment; and allowing a classmate to copy answers.

In cases where an incident report has been filed for alleged violation of scholastic dishonesty, faculty are requested to delay posting a grade, for the academic work in question, until the Dean of Students Office renders an administrative decision of the case. Students found responsible for scholastic dishonesty offenses will receive an authorized disciplinary penalty from the Dean of Students Office. The student may also receive an academic penalty in the course where the scholastic dishonesty took place. The faculty member shall determine the appropriate academic penalty, which may range from a grade of zero (0) on the assignment to failing the course.

Contact the Dean of Students for the student disciplinary process and procedures or consult the *Collin Student Handbook* for additional information.

STUDENT CONDUCT

The college expects students to conduct themselves in class in such a way as to not interfere with or disrupt the educational process. Students are to speak and act in a respectful manner toward their fellow students and the professor. Those who participate in inappropriate behavior such as, excessive talking, cell phone or pager use, verbal altercations, or blatantly disregarding instructor's directions will be asked to leave the class. Continuance of such behavior will result in permanent removal.

LATERAL TRANSFER POLICY

Lateral transfers will not be granted after the 4th week of class or after the first lecture exam, which ever comes first. Exceptions to this are for documented changes in work schedule or family emergencies. If a student does transfer to another section, all previous grades will accompany the student. However, the new instructor can require the student to retake any exam or quiz. For questions concerning this policy, contact the Biology Department Associate Dean.

WITHDRAWAL POLICY - Course Drop Limit Provisions

Students who enroll as an entering freshman or a first-time college student in undergraduate courses at any Texas public community college, technical institute, health sciences institution, or any public university offering undergraduate courses must comply with the legislation of TEC51.907. TEC51.907 states that students who enroll for the first time during the fall 2007 semester or any subsequent semester are subject to the course drop limit of six course drops. This includes any course a transfer student has dropped at another institution. Collin College will not begin to count dropped courses until the fall 2008 semester.
NOTE: You will not be allowed to withdraw from classes at Collin if your official transcripts (required for admission) are not on file.
For more information go to http://www.collin.edu/aro/withdrawal.htm.

IF YOU HAVE DIFFICULTIES

First contact your instructor. If you are unable to resolve the problem, contact the divisional secretary for the associate dean at your campus.

INSTRUCTOR ADDENDUM

Please read and review the instructor addendum regarding specific course information, schedule, and contact information.
Instructor Website: faculty.collin.edu/mweis

BIOLOGY 2420 - MICROBIOLOGY LECTURE

TENTATIVE FALL COURSE CALENDAR

WEEK	DATE	TOPICS	CHAPTERS COVERED
WEEK 1	AUGUST 27-31	Course Introduction and Overview Prokaryotic Cell Structure & Classification	Handouts 11 (selected pages); 3
WEEK 2	SEPTEMBER 3-7	*****9/3 Labor Day Holiday***** Prokaryotic Cell and Metabolism Microbial Metabolism	 3 5 (selected pages)
WEEK 3	SEPTEMBER 10-14	Microbial Growth & Culture Methods Microbial Genetics	6 7
WEEK 4	SEPTEMBER 17-21	Physical & Chemical Control	9
WEEK 5	SEPT 24-28	Antibiotics	10
WEEK 6	OCT 1-5	Classification of Viruses	13 (related topic pages)
WEEK 7	OCT 8-12	Epidemiology	14
WEEK 8	OCTOBER 15-19	Host Defense: Innate Immunity Host Defense: Acquired Immunity *****10/19 Last Day to Withdraw*****	15 16
WEEK 9	OCT 22-26	Vaccines	17
WEEK 10	OCT 30, NOV 1	Gram-positive Diseases	19
WEEK 11	NOVEMBER 5-9	Gram-negative Diseases	20
WEEK 12	NOVEMBER 12-16	Other Bacterial Diseases	21
WEEK 13	NOVEMBER 11/20	Viruses & Prions ***Thanksgiving Holiday 11/21-11/25***	13 (related pages)
WEEK 14	NOVEMBER 26-30	DNA Virus Infectious Diseases RNA Virus Infectious Diseases	24 25
WEEK 15	DECEMBER 3-7	RNA Virus Infectious Diseases Bioterrorism and Emerging Diseases	25 26 (related pages)
WEEK 16	DECEMBER	**Final Exam Week** **Thursday December 6**	

Note: *The instructor reserves the right to make changes to the course calendar as needed. Any changes will be discussed in class. Please see instructor addendum for specific calendar assignments and assessments.*