UNIVERSITY COLLEGE OF THE FRASER VALLEY

COURSE INFORMATION

DISCIPLINE/DEPARTMENT: Biology **IMPLEMENTATION DATE:** October 1994

Course Revised Implementation Date:: September 2002

Course to be Reviewed: September 2006

Biology 203	Microbiology I	4
SUBJECT/NUMBER OF COURSE	**DESCRIPTIVE TITLE**	**UCFV CREDITS**

CALENDAR DESCRIPTION: An introduction to modern microbiology; provides a base in the fundamentals of microbial structure, bioenergetics, growth, and genetics, predominately by considering bacteria and viruses.

RATIONALE:

COURSE PREREQUISITES: BIO 112, and CHEM 112 or CHEM 101 and CHEM 102 with a "B" or better

COURSE COREQUISITES: None

HOURS PER TERM FOR EACH STUDENT	**Lecture**	**60**	**hrs**	**Student Directed Learning**	**hrs**
	Laboratory	**45**	**hrs**		
	Seminar		**hrs**	**Other - specify:**	
	Field Experience		**hrs**		
				TOTAL	**105 HRS**

MAXIMUM ENROLMENT: 24

Is transfer credit requested? : **Yes** **9** **No**

AUTHORIZATION SIGNATURES:

Course Designer(s): Terry Starr, Ph.D. .

Chairperson: Curriculum Committee

Department Head: Ernest Kroeker, Ph.D.

Dean: K. Wayne Welsh

PAC: Approval in Principle _____ **(Date)**

PAC: Final Approval: Nov 28, 2001 **(Date)**

OUTLN95/01/dd

Biology 203
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SYNONYMOUS COURSES:

(a) replaces N/A
(course #)

(b) cannot take N/A for further credit
(course #)

SUPPLIES/MATERIALS:

TEXTBOOKS, REFERENCES, MATERIALS (List reading resources elsewhere)

Microbiology, Prescott, Harley & Klein
Lab handouts: available in the bookstore

OBJECTIVES:

The overall emphasis is to give the student a foundation in microbiology. Students should gain an appreciation of the unique biochemical pathways and complex genetic mechanisms found in the microbial world. In addition, the lab component will focus on modern techniques used in identifying bacteria.

METHODS:

Lecture, demonstrations, small group practice, discussions, audio-visual presentations, use of models and charts.

STUDENT EVALUATION PROCEDURE:

Midterm	25%
Lecture final	50%
Labs	25%

Students must pass both the lab and lecture portions of the course in order to receive a passing grade.

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COURSE CONTENT

Lecture #1: Introduction: Ch. 2, Specimen Identification
Lecture #2: Cell Structure, Ch. 3
Lecture #3: Cell Wall, Ch. 3
Lab #1: Basic Techniques
Lecture #4: Nutrition, Ch. 5
Lecture #5: Growth, Ch. 6
Lab #2: Staining Techniques
Lecture #6: Metabolism, Energy & Enzymes, Ch. 7
Lecture #7: Metabolism; 6C, 5C, & TCA Cycles
Lab #2(continued): Staining Techniques
Lecture #8: Metabolism; Fermentation, Mixed Acids, Ch. 8
Lecture #9: Metabolsim; Biosynthesis
Lab #3: API & Virus Titer
Lecture #10: Catch Up and Review

MIDTERM I: Ch. 2,3,5,6,7,8,9

Lab #3 (cont'd) API & Virus Titer
Lecture #11: Nucleic Acids, Ch. 10
Lecture #12: Proteins, Ch. 10
Lab #4: Environmental Factors
Lecture #13: Enzyme Activity, Ch. 11
Lecture #14: Gene Structure, Ch. 12
Lecture #15: Mutations, Ch. 12
Lecture #16: Plasmids, Transposable Elements, Ch. 13
Lab #5: Biochemical Activities
Lecture #17: Conjugation, Transformation, Ch. 13
Lecture #18: Molecular Genetics, Ch. 14
Lab #6: Student Project

MIDTERM II: Ch. 10, 11, 12, 13, 14

Lab #6: Student Project (cont'd)
Lecture #19: Molecular Genetics, Ch. 14 (cont'd)
Lecture #20: Bacterial Control, Ch. 15, 16
Lab #6: Student Project (cont'd)
Lecture #21: General Viruses, Ch. 17
Lecture #22: Bacteriophage, Ch. 18
Lab #6: Student Project (cont'd)
Lecture #23: Eukaryotic Viruses, Ch. 19
Lecture #24: Catch Up and Review