UNIVERSITY COLLEGE of the FRASER VALLEY

PAC FORM #2

COURSE IMPLEMENTATION DATE: []
COURSE REVISED IMPLEMENTATION DATE: September 2003
COURSE TO BE REVIEWED: September 2007
(Four years after implementation date)

OFFICIAL COURSE OUTLINE INFORMATION

Students are advised to keep course outlines in personal files for future use.

Shaded headings are subject to change at the discretion of the department and the material will vary - see course syllabus available from instructor

FACULTY/DEPARTMENT: BIOLOGY DEPARTMENT

BIO 111		5
COURSE NAME/NUMBER	**FORMER COURSE NUMBER**	**UCFV CREDITS**

Introductory Biology I

COURSE DESCRIPTIVE TITLE

CALENDAR DESCRIPTION:

For majors in biology and for career programs such as dentistry, education, forestry, medicine, agriculture, etc., that require a rigorous treatment of current concepts in biology. The course will emphasize the molecular and cellular basis of life, biochemical processes, cellular structure and function, and genetics.

PREREQUISITES Biology 12 and Chemistry 11, instructor's permission

COREQUISITES: None

SYNONYMOUS COURSE(S)	SERVICE COURSE TO:
(a) Replaces: N/A *(Course #)*	*(Department/Program)*
(b) Cannot take: N/A For further credit. *(Course #)*	*(Department/Program)*

TOTAL HOURS PER TERM: 102

STRUCTURE OF HOURS

Lectures:	45	Hrs
Seminar:		Hrs
Laboratory:	45	Hrs
Field Experience:		Hrs
Student Directed Learning:		Hrs
Tutorial	12	Hrs

TRAINING DAY-BASED INSTRUCTION
LENGTH OF COURSE:
HOURS PER DAY:

MAXIMUM ENROLLMENT: 36

EXPECTED FREQUENCY OF COURSE OFFERINGS: Every year

WILL TRANSFER CREDIT BE REQUESTED? (lower-level courses only)

WILL TRANSFER CREDIT BE REQUESTED? (upper-level requested by department)

TRANSFER CREDIT EXISTS IN BCCAT TRANSFER GUIDE: X Yes ☐ No

AUTHORIZATION SIGNATURES:

Course Designer(s): _____ Chairperson: _____
(Curriculum Committee)

Department Head: _____ Dean: _____

PAC Approval in Principle Date: _____ PAC Final Approval Date: 2003 01 29

LEARNING OBJECTIVES / GOALS / OUTCOMES / LEARNING OUTCOMES:

After completing this course, a student will have a firm understanding of the basic facts, concepts, principles and vocabulary of modern biology. Specifically, a student will understand the principles of cell structure and function and classical and molecular genetics. After completing the laboratory sessions, a student will have an understanding of basic biological techniques and the use of standard equipment. Specifically, a student will gain experience in calculation, microscopy, enzyme kinetics, energetics and Mendelian genetics through hands-on exercises involving hypothesis testing and small self-directed experiments. After successfully completing this course, a student will have an understanding of basic cellular biology and genetics sufficient to allow them into the second half of the course, Biology 112.

METHODS:

Lectures and tutorials which will include: demonstrations, small group discussions, audiovisual presentation, the use of models, video tapes, overhead transparencies, and charts. The tutorials will be used for general discussions, amplification of materials in the lectures and reading assignments, answering student queries, small group discussions, and quizzes.

Laboratory exercises, in a series of three hour laboratory sessions, will cover the materials given in lectures.

PRIOR LEARNING ASSESSMENT RECOGNITION (PLAR):

Credit can be awarded for this course through PLAR ☒ Yes

METHODS OF OBTAINING PLAR:

To permit enrollment in Biology 111 (Instructor's permission)

If a student's prior learning experiences give the student a good chance for success in Biology 111, an instructor may permit the student to register. Generally, the instructor will interview the student, and will examine the student's record to see marks in related or pertinent courses. (Example: a student with an agricultural diploma from a UK institution was considered to be eligible for Bio 111 and 112, even though he lacked the formal requirements.)

To permit a student to receive credit for Bio 111 without taking the course

(a) Articulated courses
Credit is assigned at Admissions & Records for courses that have previously been articulated as Biology 111.

(b) Non-articulated courses taken at other institutions

Faculty members scrutinize the syllabus or course outline to see if a basis for credit assignment exists. The student may instead wish to challenge the course.

(c) Course challenge

The student must challenge both lecture and lab components of the course. The student will be provided with a copy of the syllabus and information about how to obtain a copy of the current text and lab manual. The student will also be given information about exam style and expected standards.

The student can sit the examination for the lecture portion of the course at a time convenient to both student and instructor. However, since it is not reasonable to expect a lab instructor to set up a lab exam for one student, our practice has been to permit the student to write the exam for the laboratory portion of the course at the same time it is written by a regular class.

(d) Students enrolled in Biology 111 or 112 for a second time are not obliged to take the laboratory part of the course if their previous lab marked was > 70%.

TEXTBOOKS, REFERENCES, MATERIALS:

Texts:

Biology, 6th ed. Campbell et al.
Lab manual: UCFV in-house lab manual
In-class reading assignments

Laboratory Resources:

The following books are typical of many available in the lab:

Biology names and terms dictionary
Dissecting manuals for rat, frog, pigeon, fish, etc.
Human anatomy.
Human histology.
Student electron micrograph collection.

Library Resources:

The library has a comprehensive collection of reference materials at the appropriate level that covers all aspects of the topics covered in this course.

Periodicals:
Nature
Science
Scientific American

Video tapes:

A comprehensive collection of video tapes dealing with all aspects of the course is available both for class room use and for student in library, or at home use.

SUPPLIES / MATERIALS:

Students are required to supply a lab coat.

STUDENT EVALUATION:

[An example of student evaluation for this course might be:]

Lecture midterm exam	25%
Lecture final exam	30%
Tutorial quizzes	10%
Lab mark	35%

COURSE CONTENT:

[Course content varies by instructor. An example of course content might be:]

WEEK 1:	Lectures:	Course introduction & introductory activities (Handouts) The study of biology (Ch.1)
	Lab:	Check-in
WEEK 2:	Lectures:	Chemical bonding overview (Ch. 2 & 4) Water and the environment (Ch. 3 & 4)
	Lab:	Lab 1: Measurement
WEEK 3:	Lectures:	Macromolecules (Ch. 5) Macromolecules, contd.
	Lab:	Lab 2: Microscopy and cells
WEEK 4:	Lectures:	Metabolism and enzymes (Ch. 6) The cell (Ch. 7)
	Lab:	Lab 3a: Enzymes, part 1
WEEK 5:	Lectures:	Cell membranes (Ch. 8) Cellular respiration (Ch. 9)
	Lab:	Lab 3b: Enzymes, part 2
WEEK 6:	Lectures:	Respiration contd., photosynthesis (Ch. 9/10) Photosynthesis (Ch. 10)
	Lab:	Midterm lab exam; lab 5: start genetics project
WEEK 7:	Lectures:	Cellular communication (Ch. 11) Lecture midterm exam
	Lab:	Lab 4: Membrane transport
WEEK 8:	Lectures:	Mitosis (Ch. 12) Cancer (Ch. 19)
	Lab:	Lab 6: Energy transformations 1: Lab 5: Genetics F1 count
WEEK 9:	Lectures:	Meiosis (Ch. 13) Mendelian genetics (Ch. 14)
	Lab:	Lab 6: Energy transformations 2
WEEK 10:	Lectures:	Beyond Mendel (Ch. 14) Chromosomal basis of inheritance (Ch. 15)
	Lab:	No labs (Remembrance Day holiday)
WEEK 11:	Lectures:	Chromosomal basis of inheritance (Ch. 15) DNA (Ch.16)
	Lab:	Lab 7: Cell division 1; Lab 5: Genetics F2 count
WEEK 12:	Lectures:	From gene to protein (Ch. 17) From gene to protein, contd.
	Lab:	Lab 7: Cell division 2; Review; Genetics problems
WEEK 13:	Lectures:	Microbial genetics (Ch. 19) DNA technology (Ch. 20)
	Lab:	Final lab exam
WEEK 14:	Lectures:	Review
	Lab:	No lab
WEEKS 15 & 16:		Lecture final exam (see posted exam schedule)