COURSE IMPLEMENTATION DATE: May 1994
COURSE REVISED IMPLEMENTATION DATE: January 2006
COURSE TO BE REVIEWED: November 2009
(Four years after UPAC final approval date) (MONTH YEAR)

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: **Faculty of Science, Health and Human Services/Biology**

BIO 112		**5**
COURSE NAME/NUMBER	FORMER COURSE NUMBER	UCFV CREDITS

Introductory Biology II
COURSE DESCRIPTIVE TITLE

CALENDAR DESCRIPTION:

This course continues the study begun in BIO 111 of the principles of biology. This course includes a study of the interaction of organisms with one another and their physical environment as they relate to the anatomy and physiology of plant and animal systems, the diversity of life on the planet and evolution.

PREREQUISITES: **Biology 111**
COREQUISITES: **none**

SYNONYMOUS COURSE(S)
(a) Replaces: **n/a** *(Course #)*
(b) Cannot take: **n/a** *(Course #)* for further credit.

SERVICE COURSE TO: *(Department/Program)* *(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
Other (Specify): 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)	☒ Yes	☐ No
WILL TRANSFER CREDIT BE REQUESTED? (upper-level requested by department)	☐ Yes	☒ No
TRANSFER CREDIT EXISTS IN BCCAT TRANSFER GUIDE:	☒ Yes	☐ No

AUTHORIZATION SIGNATURES:

Course Designer(s): Barbara Moon, Terry Starr, Tony Stea
Chairperson: Gillian Mimmack *(Curriculum Committee)*
Department Head: Barbara Moon
Dean: Jackie Snodgrass
UPAC Approval in Principle Date:
UPAC Final Approval Date: November 25, 2005

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.
Upon successful completion of this course students should be able to:
a) describe the principles of biological diversity of plants and animals, modern evolutionary theory, plant and animal anatomy and physiology, and the concepts and principles of ecology.
b) demonstrate the use of basic biological techniques and standard equipment.
Specifically, students will be able to classify and describe characteristics of prokaryotes, protista, fungi, plants and invertebrates; and describe characteristics of vertebrate classes. Students will be able to design and conduct simple long-term independent research projects and write a scientific report.
c) demonstrate an understanding of modern biology sufficient to allow them entry into second year majors' courses in biology.

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 compliment the materials given in lectures.

PRIOR LEARNING ASSESSMENT RECOGNITION (PLAR):

Credit can be awarded for this course through PLAR (Please check:) ☒ Yes ☐ No

METHODS OF OBTAINING PLAR:

To permit enrollment in Biology 112 (instructor's permission)

If a student's prior learning experiences give the student a good chance for success in Biology 112, 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 Bio 112, even though he lacked the formal requirements.)

Course challenge

a) 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.

b) 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.

Students enrolling for a second time

Students enrolled in Biology 111 and Biology 112 for a second time are not obliged to take the laboratory part of the course if their previous lab mark was greater than 70%.

TEXTBOOKS, REFERENCES, MATERIALS:

[Textbook selection varies by instructor. An example of texts for this course might be:]

Texts:

Biology, 7th ed. Campbell and Reece

Lab manual: UCFV in-house lab manual

In-class reading assignments

Library Resources:

The following books are 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

Books:

The library has a comprehensive collection of reference materials at the appropriate level that covers all aspects of the topics covered 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 classroom use and for student in library, or at home use.

SUPPLIES / MATERIALS:

Students are required to buy 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)
Descent with modification (Ch. 22)

Lab: Prokaryotes

Week 2:

Lectures: Evolution of populations (Ch. 23)
Origin of species (Ch. 24)

Lab: Protista, Fungi

Week 3:

Lectures: Tracing phylogeny (Ch. 25)
Plant evolution (Ch. 29/30)

Lab: Plant diversity

Week 4:

Lectures: Invertebrates & origin of animals (Ch. 32/33)
The vertebrate genealogy (Ch. 34)

Lab: Invertebrate diversity

Week 5:

Lectures: Plant structure and growth (Ch. 35)
Transport in plants (Ch. 36)

Lab: Vertebrates

Week 6:

Lectures: Plant reproduction and development (Ch. 38)
Transport in plants (Ch. 39)

Lab: Review: Project planning and early set-ups

Week 7:

Lectures: Midterm Break
Lecture midterm exam

Lab: No Labs

Week 8:

Lectures: An introduction to animal physiology (Ch. 40)
Animal nutrition (Ch. 41)

Lab: Lab final exam

Week 9:

Lectures: Circulation (Ch. 42)
Gas exchange (Ch. 42)

Lab: Research projects

Week 10:

Lectures: The body's defenses (Ch. 43)
Chemical regulation (Ch. 45)

Lab: Research projects

Week 11:

Lectures: Nervous systems (Ch. 48)
Movement (Ch. 49)

Lab: Research projects

Week 12:

Lectures: Introduction to ecology (Ch. 50)
Population ecology (Ch. 52)

Lab: Research projects

Week 13:

Lectures: Community ecology (Ch. 53)

Ecosystems (Ch. 54)

Lab: Oral presentations; hand-in reports

Week 14:

Lectures: Conservation ecology (Ch. 55)

Lab: No Lab

Weeks 15 & 16:

Lecture final exam (see posted exam schedule)