1/16/2025 DATE
☐ REQUIRED COURSE
☑ ELECTIVE COURSE

MSD DIVISION
☐ NEW COURSE
☑ REVISION

Lake Land College

Course Information Form

COURSE NUMBER:	BIO-150		TITLE: *(30 Characters Max)*	Biotechnology in Society						ECH:	3
SEM CR HRS:	3	Lecture:	3	Lab:	0						
Course Level:	☑ Gen Ed / IAI ☐ Baccalaureate /Non-IAI	☐ Career/Technical ☐ Dev Ed/ Not in Degree Audit	Clinical Practicum:	0	Work-based Learning:	0	WBL ECH:	0			
COURSE PCS #	11 - 26.0101		IAI Code	L1 906			Contact Hours (Minutes/Week)				
Repeatable (Y/N):	N	Pass/Fail (Y/N):	N	Variable Credit (Y/N):	N	Min:		Max:		16 Wks	150	8 Wks	300
Prerequisites:	None										
Corequisites:	None										
Catalog Description: (40 Word Limit)	This course explores the field of biotechnology as a component of biology. Material covered includes basic DNA structure and function, history of biotechnology, basic techniques used in biotechnology, current and future impacts of biotechnology and ethical issues within biotechnology.										

List the Major Course Segments (Units)	Contact Lecture Hours	Contact Lab Hours	Clinical Practicum	Work-based Learning
Introduction to biotechnology	7			
Biotechnology careers	3			
DNA structure and function	4			
Genetic engineering basics & microbial biotechnology	10			
Plant and animal biotechnology	10			
Marine biotechnology	3			
Society and biotechnology	8			
(Societal components specifically found in each unit case study)				
TOTAL	45	0	0	0

EVALUATION							
QUIZZES	☑	EXAMS	☑	ORAL PRES	☐	PAPERS	☑
LAB WORK	☐	PROJECTS	☑	COMP FINAL	☑	OTHER	☐

COURSE MATERIALS		
TITLE:	Introduction to Biotechnology	Biotechnology and Society
AUTHOR:	William J. Thieman and Michael A. Palladino	Steven, Hallam
PUBLISHER:	Pearson	University of Chicago Press
VOLUME/EDITION/URL:	4th edition	1st edition
COPYRIGHT DATE:	2019	2016

MAJOR COURSE SEGMENT	HOURS	LEARNING OUTCOMES
		The student will be able to:
Introduction to biotechnology	10	1. Demonstrate the differences in classical and modern biotechnology. 2. Outline multiple examples of biotech careers and also historical applications.
DNA structure and function/genetic engineering basics	14	1. Identify the components of DNA structure. 2. Demonstrate its function in protein synthesis and recombinant DNA processes.
Plant , animal and marine biotechnology	13	1. Outline and describe multiple examples of biotech involving plants, animals and marine life.
Society and biotechnology	8	1. Generate a list of biotech applications with medical, forensic and genomic applications. 2. Detect how these applications affect society.
	45	

Outcomes*	At the successful completion of this course, students will be able to:
Course Outcome 1	Examine the history of biotechnology and deduce the progression/advancement of the science.

Course Outcome 2	Integrate genetic engineering terminology by describing biotech applications.
Course Outcome 3	Distinguish between examples of plant, animal, and marine biotechnology.
Course Outcome 4	Inform how biotech is used in medicine, forensics, and genomics.
Primary Laker Learning Competency	Scientific Literacy: Students apply the scientific process to real-life situations.
Secondary Laker Learning Competency	Information & Technology Literacy: Students evaluate information effectively using the appropriate technological tools.

**Course and program outcomes will be used in the software for outcomes assessment and should include at least 1 primary and 1 secondary Laker Learning Competency. Limit to 3-5.*