

<b>Course Department</b>	BIOL	<b>Course Number</b>	251	<b>Course Credit Hours</b>	4
<b>Catalog Course Description</b>	Emphasizes the distribution, form, structure and physiology of microorganisms in laboratory. Develops the student's skills in aseptic procedures, isolation and identification. <b>Recommended for all allied health majors.</b> May be repeated a maximum of two times within the last five years.		<b>Course Transferability</b>	This course is designed to apply toward a WNC degree and/or transfer to other schools within the Nevada System of Higher Education, depending on the degree chosen and other courses completed. It may transfer to colleges and universities outside Nevada. For information about how this course can transfer and apply to your program of study, please contact a counselor.	
<b>Minimum Lecture Hours per Week (16 week Semester):</b> Three hours of Lecture			<b>Minimum Lab Hours per Week (16 week Semester):</b> Three hours of Laboratory.		
<b>Minimum Lecture Hours per Week (8 week Semester):</b> Six hours of Lecture.			<b>Minimum Lab Hours per Week (8 week Semester):</b> Six hours of Laboratory.		
<b>Minimum Lecture Hours per Week (3 week Semester):</b> 16.25 hours of Lecture.			<b>Minimum Lab Hours per Week (3 week Semester):</b> 16.25 hours of Laboratory.		
<b>Minimum Lecture Hours per Week (5 Weekend Semester):</b> 9.6 hours of Lecture.			<b>Minimum Lab Hours per Week (5 Weekend Semester):</b> 9.6 hours of Laboratory.		
<b>Pre-Requisite and/or Co-Requisite Course[s]</b>	Pre-Requisites: BIOL 190 & BIOL 190L with a grade of C or better or BIOL 223 with a grade of C or better or CHEM 121 with a grade of C or better.				
<b>Faculty Comment</b>	BIOL 251 is designed specifically for students who are studying towards entering a program of education in Nursing or Allied Health Fields. BIOL 251 is not a major's course, nor does it fulfill that roll at most other institutions of higher education.				
<b>Identify any Risk Management Issues</b>	Risk of minor physical injury (skin laceration) due to glass breakage; risk of minor physical injury (skin) due to the use of common mineral acids and bases; risk of serious physical injury if student fails to wear proper goggles (eyes) and lab coat (skin); risk of moderate injury if student fails to put hair up out of the way (skin); risk of moderate physical injury if student fails to wear proper foot wear (skin); risk of minor to severe physical injury due to burn (Bunsen burners, Bactincinerators and skin); risk of serious infection if safety and aseptic technique is not adhered to 100%.				
<b>Lab Safety Supplies REQUIRED</b>	<b>Purchased at the WNC Bookstore. ALL Students: Tyvek Lab Coat and Encon Safety/Chemical Splash Goggles with Indirect Venting; Anatomy and Physiology Students: Nitrile Gloves</b>				
<b>Course Goals, Outcomes and/or Objectives</b>	<p>The objectives of this course are to:</p> <p>A) Introduce the complexities and relationships between the microbial structures, metabolic strategies, genetics and ecology of prokaryotic microorganisms, eukaryotic microorganisms, and viruses.</p> <p>B) Introduce the relationships between principles of disease prevention, disease pathogenicity and epidemiology, and host immune responses.</p> <p>C) Introduce microbiology laboratory skills needed to aseptically transfer, isolate, and stain cultured microorganisms for macro- and micro-morphological analysis.</p> <p>D) Gather, analyze and interpret quantitative and qualitative data towards identifying and testing hypotheses about microorganisms.</p>				
<b>Student Learning Outcomes</b>	<p>A) Students will identify microbial structures and describe the metabolic strategies, genetics, and ecology of prokaryotic microbes, eukaryotic microbes, and viruses using appropriate terminology.</p> <p>B) Students will evaluate hypothetical or literature-based disease scenarios; apply scientific reasoning and the principles of disease prevention, pathogenicity, epidemiology, and host immune responses; and develop a plan of disease control or prevention.</p> <p>C) Using proper aseptic laboratory technique, students will transfer, isolate, and stain cultured microorganisms, and then analyze their macro- and micro-morphological characteristics.</p> <p>D) Students will apply scientific reasoning to deduce the identification of or test hypotheses about microorganisms.</p>				
<b>Course Linkage to Academic Degree Program[s]</b>	<p><b>General Education Mission:</b></p> <p>BIOL 251 is a general education course <b>only for the AAS degree in Nursing</b> that promotes the development of knowledge, skills, and attitudes that will benefit students in their personal and professional endeavors.</p> <p><b>General Education Student Learning Outcome:</b></p> <p>Students who successfully complete BIOL 251 satisfy the general education learning outcomes by demonstrating that they: Can use college-level mathematics skills; Possess an understanding of scientific inquiry and the role of science and technology in the modern world; Possess adequate problem solving, creative reasoning, and critical thinking skills.</p> <p><b>Program Mission for AA/AS degree:</b></p> <p>BIOL 251 satisfies the A.A./A.S. degree mission by providing academic knowledge and skills for successful transfer students to meet higher educational goals and are listed in Group C under the AS degree requirements.</p>				
<b>Lecture and Lab Experiment Source</b>	<p><a href="http://www.drcarman.info">http://www.drcarman.info</a></p> <p>Dr. Carman uses no traditional textbooks or lab books: this saves the students money and keeps information more fluid and current.</p>				

## Grading Scale

<b>95-100% = A,</b>
<b>90-94% = A-,</b>
<b>87-89% = B+,</b>
<b>83-86% = B,</b>
<b>79-82% = B-,</b>
<b>75-78% = C,</b>
<b>70-74% = D,</b>
<b>≤ 69% = F</b>

## Grade Assignment and Distribution to Required Work

Assignment	Comment(s) (ALL Exams Cumulatively Comprehensive)	Due Dates (ALL Exams Cumulatively Comprehensive)	Points Possible	Points Earned by Student
Exam 1	50 Questions	<b>31 May 2014, 1100 hours</b> (Content: through 1800 hrs, 25 May 2014.)	40	
Exam 2	75 Questions	<b>7 June 2014, 0800 hours</b> (Content: through 1800 hrs, 12 June 2014)	60	
Exam 3	75 Questions	<b>14 Jun 2014, 1100 hours</b> (Content: through 1800 hrs, 8 Jun 2014)	80	
Exam 4	150 Questions	<b>22 Jun 2014, TTBA</b> (Content: through complete course)	160	
<b>Experiments Due at end of lab period</b>			110	
NOTE: Experiments due at the end of the lab experiment require students to complete the Questions at the end of the experimental write-up prior to coming into (or before exiting for the day) the lab. This does not mean to complete the experimental portion before coming to lab. The experimental portion is to be completed during the lab period on your lab print-outs in ink.				
<b>Exceptions to Experimental Due Dates!</b>		Potentiometric Titration of An Amino Acid; <b>due 1 week after completion in lab</b>	75	
		BUN Assay; <b>due 1 week after completion in lab</b>	15	
Total Possible Points		540		
Course Percent Score: (Student's Earned Points/540)*100 Match to Grading Scale to Determine Grade for Semester				