

Course Department	BIOL	Course Number	223	Course Credit Hours	4
<b>WNC Catalog Course Description</b>	Offers detailed study of cellular functions and the integumentary, skeletal, muscular, and nervous systems. Primary for physical education, pre-nursing and other pre-health majors. NOTE: For programs that require BIOL 223 and 224, both courses must be completed at the same institution if taken outside Nevada.		<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>Pre-Requisite or Co-Requisite Courses (if the latter is applicable)</b>	BIOL 190 & BIOL 190L with a grade of C or better or CHEM 121 with a grade of C or better or meet nursing program chemistry requirement. May be repeated a maximum of two times within the last five years.				
<b>Faculty Comment</b>	BIOL 223 is designed specifically for students who are studying towards entering a program of education in Nursing or Allied Health Fields. BIOL 223 is not a major's course, nor does it fulfill that roll in programs outside of undergraduate Allied Health, Nursing and/or Nutrition Departments at other institutions.				
<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 fire/burn (Bunsen burners, pyrophoric compounds and skin).				
<b>Lab Safety Supplies REQUIRED</b>	<b>Purchased at the WNC Bookstore. ALL Students: Tyvek Lab Coat and UVEX Safety/Chemical Splash Goggles with Indirect Venting; Anatomy and Physiology Students: Nitrile Gloves (Best Price is at WalMart or An Auto Parts Store) – NO Deviations from These Items!</b>				
<b>Course Topics</b>	All students will have in-depth (first semester of a lab-based two-semester sequence) knowledge of the human integumentary, muscular, skeletal (including major articulations), nervous, systems, and their applications to human health and some fundamental pathology to each organ system. In addition, all learners will have in-depth knowledge of the language of anatomy and physiology, the four major classes of biomolecules, cellular anatomy and physiology, introduction to tissues in the human body and introductory intermediary metabolism.				

<p><b>General Education Course Goals/Outcomes/Objectives</b></p>	<p>Upon successful completion of BIOL 223, Human Anatomy and Physiology I, (defined as a 75% course score or better) learners will be able to (GESLO = General Education Student Learning Outcomes; ISLO = Institutional Student Learning Outcomes):</p> <p>Describe the anatomy and physiology of the tissues in the human body, the integumentary, skeletal (including the major articulations), muscular and nervous (to include the cranial nerves and special senses) systems of the body (GESLO #1; ISLO #1);</p> <p>Illustrate and explain the function of cell and tissue types in the human body (GESLO #1, #4; ISLO #1, #4, #7);</p> <p>Illustrate and explain the function of biomolecules at the sub-cellular and cellular level in the human body (GESLO #1, #4; ISLO #1, #4, #7);</p> <p>Draw conclusions from experimentally derived data in the laboratory (GESLO #1, #4; ISLO #1, #4, #7).</p>
<p><b>Course Broad-Based Student Learning Outcomes</b></p>	<p>Students will illustrate and explain the functions of each of the 4 classes of bio-molecules. Students will explain and illustrate a cell and its sub-cellular organelles. Students will explain, diagram and draw intermediary metabolic pathways. Students will describe the anatomical position, body directions, regions, planes and sections using correct anatomical terminology. Students will describe the major body cavities, their subdivisions and the major organs contained within them. Students will recognize anatomical structures, explain physiological functions, and recognize and explain the principle of homeostasis applied to the basic tissue types (histology), and the integumentary, skeletal, muscular, and nervous systems (including special senses). The properly prepared student will be able to complete these activities at or above a minimum level of 75% on an appropriate assessment tool.</p>
<p><b>Student Performance/Assessment Tool[s]</b></p>	<p>Laboratory Experiments and/or Exams as described below.</p>
<p><b>Minimum Studying Time Required (per day! 7 days a week!)</b></p>	<p>The general rule of thumb in higher academics/education for appropriate student studying time necessary for learning to occur in a college/university transfer course is 3 hours a week for every hour that a student is in lecture and/or lab. For a traditional science lab-based course, that means a minimum of 18 hours ... even better: 3 hours every day of the week. For an 8 week course, that goes up to 6 hours a day. For a three week summer course, you go to class and lab, study and sleep.</p>
<p><b>Course Linkage to Academic Degree Program[s]</b></p>	<p><b>General Education Mission:</b>  BIOL 223 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>  Students who successfully complete BIOL 223 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>  BIOL 223 satisfies the A.A./A.S. degree mission by providing academic knowledge and skills for successful transfer students to meet a limited number of higher educational goals and are listed in Group C under the AS degree requirements.</p>
<p><b>Lecture and Lab Experiment Source</b></p>	<p><a href="http://www.drcarman.info">http://www.drcarman.info</a>  Dr. Carman uses no traditional textbooks or lab books: this saves the students money and keeps information more fluid and current.</p>

<b>Free, Web-Based Textbook</b> <b>If You So Desire – NOT 100%</b> <b>Required, unless otherwise</b> <b>stated</b>	Open Stax <a href="#">Anatomy and Physiology Text</a>
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### Grading Scale

<p style="text-align: center;"> <b>96-100% = A</b>  <b>91-95% = A-</b>  <b>87-90% = B+</b>  <b>83-86% = B</b>  <b>79-82% = B-</b>  <b>75-78% = C</b> </p> <p style="text-align: center;"> <b>Above the minimum course score of 75% is a properly prepared student.</b>  <b>71-74% = D</b>  <b>74% or below for the course is an improperly prepared student.</b>  <b>≤ 70% = F</b> </p> <p style="text-align: center;">         cf also <a href="#">Section 3 of the Course Rules, lines 184-211</a>, linked on Dr. Carman’s Main Web Page (<a href="http://www.drcarman.info">http://www.drcarman.info</a>)       </p>
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### Grade Assignment and Distribution to Required Work

Assignment	Comment(s) ( <b>ANY Quizzes or Exams are Cumulatively Comprehensive</b> )	Dates/Locations	Percent (%) of Grade
<b>“BIG” Exams</b>			
Pre-Course Assessment (HuAP 1 (Version 1), 2 and 3)	Canvas-based; Bring a non-programmable calculator and pencils; Dr. Carman provides scratch paper if needed; students don’t see the exam, again.	24 Jan 2017 1600-1845 - <b>CED 331D</b>	0%
Post-Course Assessment (HuAP 1, Version 2)	Canvas-based; Bring a non-programmable calculator and pencils; Dr. Carman provides scratch paper if needed; students don’t see the exam, again.	16 Mar 2017 1600-17:15 p.m. - <b>CED 331C</b>	30%
Lab Theoretical Exam	Per Canvas Announcement	16 Mar 2017 1900-2145 p.m. - <b>CED 331 Main Lab</b>	20%
<b>NOT so “BIG” Exams (a.m. &amp; p.m. times used); Dr. Carman Provides and Collects the Scratch Paper (if provided – otherwise, there will be no scratch paper used)</b>			
Exam/Quiz #1	Through Week 3 Lecture, Lab and Canvas Worksheets	14 Feb 2017 4-5:15 p.m. - <b>CED 331D</b>	20%
Exam/Quiz #2	Through Week 6 Lecture, Lab and Canvas Worksheets	7 Mar 2017 4-5:15 p.m. - <b>CED 331D</b>	
<b>Canvas Worksheets</b>	<b>Notification via Canvas</b>		10%
BIOL 223 is a standard lecture/lab course that requires internet access, use and software savvy. Due diligence is the responsibility of every student. This includes late enrollers!			

**Make sure your email address in myWNC and Canvas is working properly as there is no excuse to come empty-handed/unprepared to class or lab!** Canvas-based worksheets/exams are timed and have “narrow windows” for completion.

If you’ve never used Canvas, [please click here for Help](#) – also, you’ll find it of great importance to download the Canvas app onto your phone, phablet, tablet or laptop, for your [iPhone](#) and your [Android](#), if you haven’t already. **All Quizzes/exams are taken in the computer lab as previously indicated. This is Dr. Carman’s second attempt at using Canvas for instructional purposes – please bear with him as he continues to find his way through this learning platform.**

Reading/Lecture/Lab assignments are posted on Dr. Carman’s website and students are expected to have completed, studied and learned the reading assignments in advance of the lecture period, as well as to have completed any assigned worksheets.

**Students are expected to attend office hours on a regular basis. Student questions are strongly encouraged and welcomed!**

In the case of absenteeism in either (or both) lecture and /or lab, you may not complete the quiz/exam and your score for that day is a zero (0).

Please remember that if you “W” from the course that it would be most courteous and respectful of you to contact your class/lab partner and Dr. Carman so that adjustments may be made in the classroom.

Experiments	Due before you leave lab (this means that you will have to complete the lab questions ahead of the lab; you will take the checked over experiments with you as you leave once Dr. Carman has checked them over) – if you leave without completing the lab and accompanying questions, it’s a zero for the day. Keep in mind that the lab period is over at the scheduled time: plan your time accordingly as labs not completed by or before that time will receive a zero (0) for that day’s lab experiment grade. There will be one or two exceptions to the lab due dates: those will be clarified as they come up.	20%
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ANY Canvas testing or quizzing (this includes the pre-post-test assessments) is to be done by yourself – “collaborative learning” is cheating and results in an “F” for the course. See Rules Section on Canvas.

Canvas is the official grade keeper. The format Canvas uses will determine your overall course percentage. Your course percentage will be matched against the Grading Scale on p. 3 or the curve as previously described/linked for your final course grade.