

Course Department	BIOL	Course Number	224	Course Credit Hours	4
WNC Catalog Course Description	Offers a detailed study of the anatomy and physiology of the circulatory, immune, respiratory, digestive, urinary, endocrine and reproductive systems. Primarily 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.		Course Transferability	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.	
Minimum Lecture Hours per Week (16 week Semester)	Three hours of Lecture		Minimum Lab Hours per Week (16 week Semester)	Three hours of Laboratory.	
Minimum Lecture Hours per Week (8 Week Semester)	Six hours of Lecture.		Minimum Lab Hours per Week (8 week Semester)	Six hours of Laboratory.	
Minimum Lecture Hours per Week (3 Week Semester)	16.25 hours of Lecture.		Minimum Lab Hours per Week (3 week Semester)	16.25 hours of Laboratory.	
Pre-Requisite or Co-Requisite Courses (if the latter is applicable)	BIOL 223 with a grade of C or better. May be repeated a maximum of two times within the last five years.				
Faculty Comment	BIOL 224 is designed specifically for students who are studying towards entering a program of education in Nursing or Allied Health Fields. BIOL 224 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.				
Identify Any Risk Management Issues	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).				
Lab Safety Supplies REQUIRED	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!				
Course Topics	All students will have in-depth (second semester of a lab-based two-semester sequence) knowledge of the human circulatory, immune, respiratory, digestive, urinary, endocrine and reproductive systems and their applications to human health and some fundamental pathology to each organ system, e.g., this may include lecture topics on elementary EKG interpretation and arterial blood gas interpretation.				

<p>General Education Course Goals/Outcomes/Objectives</p>	<p>Upon successful completion of BIOL 224, Human Anatomy and Physiology II, (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 and/or identify the anatomy and physiology of the circulatory, immune, respiratory, digestive, urinary, endocrine and reproductive systems (GESLO #1; ISLO #1);</p> <p>Illustrate, explain and/or identify the function of cell and tissue types in the human body (GESLO #1, #4; ISLO #1, #4, #7);</p> <p>Illustrate, explain and/or identify 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 and/or identify conclusions from experimentally derived data in the laboratory (GESLO #1, #4; ISLO #1, #4, #7).</p>
<p>Course Broad-Based Student Learning Outcomes</p>	<p>Students shall acquire an understanding, and explain, illustrate or diagram this understanding, of the physiological function and anatomical structure of the cardiovascular, respiratory, immune, endocrine, urinary, reproductive and gastrointestinal systems including their interrelationships. Properly prepared students will be able to identify a minimum of 80% of EKG rhythms and ABG analysis/results correctly. Students shall acquire the ability to apply analytic thinking skills in interpreting both qualitative and quantitative data and case studies. 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>Student Performance/Assessment Tool[s]</p>	<p>Daily Work Sheets, Laboratory Experiments and/or Exams as described below.</p>
<p>Minimum Studying Time Required (per day! 7 days a week!)</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>Course Linkage to Academic Degree Program[s]</p>	<p>General Education Mission: BIOL 224 is a general education course only for the AAS degree in Nursing that promotes the development of knowledge, skills, and attitudes that will benefit students in their personal and professional endeavors.</p> <p>General Education Student Learning Outcome: Students who successfully complete BIOL 224 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>Program Mission for AA/AS degree: BIOL 224 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>Lecture and Lab Experiment Source</p>	<p>http://www.drcarman.info Dr. Carman uses no traditional textbooks or lab books: this saves the students money and keeps information more fluid and current.</p>

Free, Web-Based Textbook If You So Desire – NOT Required	Open Stax Anatomy and Physiology Text
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Grading Scale

96-100% = A
91-95% = A-
87-90% = B+
83-86% = B
79-82% = B-
75-78% = C
Above the minimum course score of 75% is a properly prepared student.
71-74% = D
74% or below for the course is an improperly prepared student.
≤ 70% = F

cf also [Section 3 of the Course Rules, lines 184-211](#), linked on Dr. Carman's
 Main Web Page (<http://www.drcarman.info>)

Grade Assignment and Distribution to Required Work

Established in Canvas – originally emailed Fri, Jan 19, 2018 at 12:47 PM						
BIOL 224 1003 Pre-224 Post-190 Assessment	Tues	4:00 PM	5:15 PM	CED 331 C	3/27/18	
BIOL 224 1003 NSBE/Q 1	Tues	4:00 PM	5:15 PM	CED 331 C	4/10/18	
BIOL 224 1003 NSBE/Q 2 (Immunology ONLY)	Thur	4:00 PM	5:15 PM	CED 331 C	4/12/18	
BIOL 224 1003 NSBE/Q 3 (Cardiac/EKG ONLY)	Thur	4:00 PM	5:15 PM	CED 331 C	4/26/18	
BIOL 224 1003 NSBE/Q 4	Thur	4:00 PM	5:15 PM	CED 331 C	5/10/18	
BIOL 224 1003 & 1004 Post 224 & Lab Assessment	Thur	4:00 PM	8:15 PM	CED 331 D	5/17/18	
BIOL 224 1004 Lab Practical	Thur	8:30 PM	9:45 PM	Cadaver Lab	5/17/18	
Exam/Quiz date non-congruence between this and other documents on Dr. Carman's website is resolved by, and with, this specific document.						
BIOL 224 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 fourth 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).

KEY CONCEPT: Late arriving students are not permitted to take exams or assessments. Plan your day accordingly to be on time and prepared.

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.	10%
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.		