

## BSC 1086C, Anatomy & Physiology II, 4 Credit Hours (Summer) (2026)

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- Professor: Patrick McArthur
- Email: mcarthup@nwfsc.edu
- Phone: 850-729-5241
- Office Hours: TBD
- Campus/Room:
- Class Days:
- Class Times:
- Online Classroom with Gradebook: [Canvas class shell](#)
- Final Exam: Aug 8th

### Course Description:

A combined lecture and laboratory class involving the study of the basic principles and foundations of mammalian physiology, specifically, the human model. Specific attention and detail will be given to the molecular mechanisms that share commonality with all systems. Material will range from organizational levels through conceptual understanding of bioengineering covering design through molecular interactions responsible for specific function. Particular attention will be focused on the topics of anatomical and physiological themes involving the endocrine, hemopoetic, cardiovascular, respiratory, lymphatic, digestive, immune, urinary, metabolic and reproductive systems. This course is designed to dovetail the student's undergraduate science curriculum and build the foundational principles needed for allied health professions.

Course title, number, credit hours, & description from College Catalog.

### Course Prerequisite

There are no prerequisites for this course.

### Course Materials

**Recommended Text:** A text book is not required. Seeley, R. (2006). Anatomy & Physiology (6<sup>th</sup>, 7<sup>th</sup> or 8<sup>th</sup> or 9<sup>th</sup> ed.). Boston, MA: McGraw Hill., or Martini, F. (2004 or 2005). Fundamentals of anatomy & physiology (6<sup>th</sup> or 7<sup>th</sup> ed.). Boston, MA: Benjamin Cummings.

**Required Lab Manual:** The required dedicated lab manual for this course can be purchased at the college bookstore and is a requirement for this course.

## Student Success Statement

Northwest Florida State College aspires to provide a quality, convenient, and affordable education by using data-informed decision making and industry best practices. Northwest Florida State College seeks to provide students with premiere learning experiences that create personal and professional connections that support students' personal growth, and clear, inclusive, education pathways that help students to successfully engage in a diverse society.

## Accommodation Resources

To obtain disability-related academic accommodations, students with disabilities must contact the Accommodation Resource Center at [arc@nwfsc.edu](mailto:arc@nwfsc.edu) or call 850-729-6079. Upon request of accommodations, students will be asked to provide medical documentation that supports their disability request. If students are concerned that they may have an undiagnosed, disability-related condition that impacts their academic progress, it is recommended that they see a licensed medical professional for a diagnosis. Please contact the Accommodation Resource Center with any questions or concerns relating to permanent or temporary student disabilities.

Students who have been approved for accommodations through the ARC are encouraged to work with their professor on facilitation. All inquiries and discussions will remain confidential.

## Student Counseling Services

Northwest Florida State College has partnered with Bridgeway Center, Inc. to provide mental health resources and counseling services to all actively enrolled students. All actively enrolled students are eligible to receive an initial assessment and up to five therapeutic sessions with a Behavioral Health provider at no cost to the student. A menu of services and resources is available at [www.nwfsc.edu/studentcounselingservices](http://www.nwfsc.edu/studentcounselingservices). Bridgeway Center Confidential Helpline: (850) 833-7500, Select Option 1 - Open 24 hours/day

## Class Attendance

Students who stop attending class or are not able to pass the course due to attendance expectations stated in the syllabus, may receive a failing grade which may impact the receipt of federal aid in subsequent courses. Students traveling for college approved activities will not be penalized academically but will be responsible for missed work.

## Attendance Confirmation

Active participation and academic engagement are expectations of enrollment in this course. Faculty confirm each student's attendance in class after the drop-add period ends. Students who have not attended class or otherwise engaged academically in the course through the submission of an academic assignment or through participation in a curricular activity will be withdrawn from the course for nonattendance.

Students who are withdrawn for nonattendance or nonparticipation early in the course may request to be reinstated in the course by contacting their instructor by email. Reinstatement in the course is at the instructor's discretion during the first three weeks of class and is not guaranteed. Reinstatement requests occurring after this three-week period may be submitted

to the instructor for consideration; however, additional administrative approval will be required to grant the reinstatement. If you are withdrawn from a course due to nonattendance and are not granted reinstatement in the course, please contact a Student Success Navigator for assistance.

## Classroom Conduct

### COVID-19 Precautions

Considering ongoing development of federal and state standards, the College strives to comply with the most up-to-date instructions provided by relevant health authorities. Updates through Campus Safety & Security regarding COVID-19 are available at [www.nwfsc.edu/coronavirus](http://www.nwfsc.edu/coronavirus).

### Grading Scheme and Procedures

#### **Examinations and Grading Scale:**

Lecture and laboratory examinations will contain a combination of multiple choice, short answer and experimental, hypothetical, or applied essay questions, with multiple parts. Questions will be drawn from the material covered since the previous exam, and each exam will carry equal weight (see Course Schedule, below). According to Bloom's Taxonomy of Learning there are 6 levels of learning with the highest two levels being the synthesis and evaluative stages. This class is aimed at all levels with particular attention to the synthesis and evaluative stages. My goal in preparing examinations is to test your **understanding** of important concepts, and your **ability to reason logically (analytical and evaluative reasoning)** from things, which you have (or should have) learned. I am not particularly interested in answers to exam questions, which merely demonstrate **rote memorization of facts**, and I am certainly not interested in answers containing material, which does not **specifically** address the question. Of course, no understanding or reasoning can occur in the absence of factual information, but it is always evident that important facts are retained when understanding of a subject is genuine. The following is an example of an array of typical exam questions based on Bloom's Taxonomy:

#### *Enzymes:*

1. Are catalysts that change the equilibrium constant of a reaction.
2. Are catalysts that lower the energy of activation of the reaction.
3. Are catalysts that only work at neutral pH.
4. Are catalysts that are made primarily from RNA.

**Briefly describe how enzymes lower the energy of activation of a reaction by describing**

**the 4 characteristics of enzymes discussed in class.**

**What are the implications of enzymes in the process of digestive compartmentalization?**

Final grades will be determined from a distribution of the total scores achieved by each student during the semester, as follows: (this scheme will be slightly altered when appropriate grouping of scores and good judgment make this logical).

Total scores at 90% but < of the top total score.....A

Total scores at 80% but < 90% of the top total score.....B

Total scores at 70% but < 80% of the top total score.....C

Total scores at 60% but < 70% of the top total score.....D

Total scores < 60% of the top total score.....F.

There will be three lecture exams during the regular semester and one final comprehensive multiple choice exam given during the week of finals. There will also be five laboratory exams which will be averaged together carrying the weight of one regular semester exam grade. Grades are earned by demonstrating subject mastery over the material as evaluated by the testing procedures and **cannot** be improved by attendance, attitude, or any other outside variable(s). **There is no extra credit (no exceptions)**. The final grade reflects extensive deliberation and analysis, and the grades thus assigned represent decisions, which are final. As a result of this policy, please understand that requests to modify the grade scale **will not** be approved. Grades can be viewed through your on-line account at midterm and after finals only, and will not be e-mailed early under any circumstances.

### Incomplete Grades

At the discretion of the instructor, an incomplete grade ("I") may be awarded when the student is unable to finish the required work because of unforeseen extenuating circumstances such as illness or TDY assignment. To receive an "I" grade, the student must have successfully completed a significant portion of the required coursework and be able to finish the remaining work without attending class. An "I" grade will automatically convert to a grade of "F" if the student does not complete the remainder of the coursework by the established deadline.

### Make-up Work

Examinations must be taken at the scheduled time, although exceptions for missed lecture exams may be granted in unavoidable emergencies (see Attendance Policies, below) there is absolutely **no make up laboratory exams**. Make up lecture exams can be taken at the Academic Success Center or in class on Friday's from 9:00-11:00 by appointment only and must be completed within 72 hrs of the original test date or by the end of the week.

### **Class Attendance Policies:**

Role will be taken at each class meeting and attendance, as well as promptness, is **mandatory**. While it is recognized that certain unforeseen events may prevent you from attending a certain class, you will be held responsible for all information conveyed during scheduled class meetings. Make-up work will only be accepted after an excused absence. For an absence to be excused, it must be determined as such during an office meeting with the instructor during office hours or some other appointed time within the following 24 hours. In following the College's guidelines if you have three consecutive absences or 25% total absences you will automatically be dropped from the course. In keeping with the College's policies under no circumstances may you bring a child to lecture or laboratory.

Students who stop attending class or are not able to pass the course due to attendance expectations stated in the syllabus may receive a failing grade which may impact the receipt of

federal aid in subsequent courses. Students traveling for college approved activities will not be penalized academically but will be responsible for missed work.”

As a courtesy to other students and the learning process, students may not bring children with them to class sessions. Health and safety concerns prohibit children from accompanying adult students in any lab, shop, office or classroom or other college facility where potential hazards exist. If a child related emergency means you must miss class, contact the instructor as soon as possible to determine your options. Students traveling for college approved activities will not be penalized academically but will be responsible for missed work.

### Instructor Communication –

Email is the official communication medium of the College. Please check College email regularly for any class and College notifications. Responses to email are usually made with two business days of original receipt. Please ***DO NOT*** use Canvas Messages in place of email.

### Academic Integrity Tools –

Northwest Florida State College subscribes to ***Turnitin***, an online plagiarism detection and prevention service. By enrolling in this class, students are consenting to upload their papers to ***Turnitin***, where they will be checked for plagiarism. Papers submitted to ***Turnitin*** are saved as source documents within these databases solely for the purpose of detecting plagiarism in other papers. Please note: all assignments submitted in this course are analyzed for plagiarism and originality.

### Electronic Devices

Electronic devices must not distract from learning. Courtesy to the professor and other students requires that phones be on vibrate or silent mode during class. No student should initiate conversations, including texts, during class activities. Use of electronic communication devices during examinations or other graded activities may constitute grounds for disciplinary action; such devices must be completely out of sight during exams or other assessments. Where emergency or employment situations require access to electronic communication services, arrangements may be made in advance with the instructor.

### Lecture Recordings

Students may, without prior notice, record video or audio of a class lecture for a class in which the student is enrolled for their own personal educational use. A class lecture is defined as a formal or methodical oral presentation as part of a College course intended to present information or teach about a particular subject. Recording class activities other than class lectures is not permitted. Except as detailed in the Catalog, recordings may not be published or shared without the written consent of the faculty member. To read and fully understand your rights and responsibilities when recording, visit the Catalog.

## Children in the Classroom

NWF State College values family life and has worked to develop policies that are supportive of families. However, it is the policy of NWF State College that students and visitors should not use the College in lieu of a childcare provider. Minor children are not permitted in labs, shops, construction/repair sites, classrooms, offices, labs, or other areas where potential hazards exist, unless enrolled in classes or activities scheduled at the site. In an emergency or other compelling situation, students or staff may bring children to class or the workplace on an incidental, individual basis, provided the instructor receives advance approval from the department chair or program director. In such cases, the children must be directly supervised at all times by the parent/adult and must not disrupt or distract the flow of college work, services or instruction. (The full [Children on Campus](#) policy statement appears in the College Catalog.)

## Emergency College Closure

In the event of unusual or extraordinary circumstances, the schedule, requirements, and procedures in this course are subject to change. If the College closes for inclement weather or other emergency, any exams, presentations, or assignments previously scheduled during the closure period will automatically be rescheduled for the first regular class meeting held once the college re-opens. If changes to graded activities are required, students will not be penalized as a result of the adjustments but will be responsible for meeting revised deadlines and course requirements.

## Academic Continuity Plan

Northwest Florida State College is dedicated to protecting the health and wellbeing of its students, staff, and faculty. The College is dedicated to working with faculty and students to ensure timely course and program completion during emergencies. In the event of a College closure, the format of this course may be modified to enable completion of the course through other means, including but not limited to online course delivery through online classrooms.

In the instance that a College closure is necessary, you will be provided with an addendum to the syllabus including full instructions. To ensure that you receive this addendum and notification of any course format changes, be sure to check your online classroom and your College email through RaiderNet. As always, the College's primary focus is the safety of the College community. Additionally, the College will apply this plan to support students and faculty who are able to engage remotely until such time as the College reopens instructional facilities.

## Student Rights, Responsibilities, and Academic Integrity

Students are responsible for adherence to all college policies and procedures, including those related to academic freedom, cheating, classroom conduct, computer/network/e-mail use and other items included in the *Northwest Florida State College Catalog and Student Handbook*. Students should be familiar with the rights and responsibilities detailed in the current *Northwest Florida State College Catalog and Student Handbook*. Plagiarism, cheating, or any other form of academic dishonesty is a serious breach of student responsibilities and may trigger consequences which range from a failing grade to formal disciplinary action.

## Grievance Policy and Procedures Statement

NWFSC aims to deliver high-quality instructional experiences. In the event of a concern regarding a class, students should first attempt to resolve the matter with the instructor. If a

resolution cannot be reached, students may seek out additional counsel in Academic Leadership through a [formal process](#). Access the [Formal Grievance/Appeal form](#).

## Assignment Schedule

### Lectures:

It is my belief that lectures and laboratory should complement, not duplicate, what can be found in your text. Therefore, the lectures and laboratory will be presented in this course for some combination of the following reasons:

1. In order to clarify difficult material covered in the text, or amplify material inadequately covered.
2. In order to convey information which, may not be generally available to the class.
3. In order to express my scientific point of view on some topic.

Class discussion is always welcome. I will be happy to open any topic for discussion whenever interest is indicated. You should bring your lab manual to every class. During lecture it is often important to identify passages or terms requiring special attention, and specific reference will frequently be made to noteworthy figures, tables and/or diagrams.

A great deal of complicated material is covered in this course, and **considerable study** will be required to master the topics, which will be addressed. For this reason, you should arrange to study each topic in the text **before** the lecture on that material is given (see Course Schedule, below). The background provided by such study will enhance your understanding of the lectures. After each class, your lecture notes should be integrated with the lab material and handouts, to correlate the information obtained from both sources. This will help to clarify the topics, which are difficult for you, and promote a coherent understanding of the subject matter. If questions still remain, you should seek assistance from me. In many cases a specific problem can be discussed and resolved quickly, and there are various sources to which I can refer you for additional help (see Appendix A, attached).

### Course Schedule:

WEEK	TENTATIVE EXAM DATES	LECTURE TOPIC/TEXT ASSIGNMENT
1		Endocrine
2		Endocrine

3		Endocrine
4	(Examination I)	Endocrine
5		Blood and Respiration
6		Hemoglobin and Saturation of oxygen
7		pH and respiration
8	(Examination II)	pH and respiration
9		Cardiac
10		Cardiac
11		Cardiac
12	(Examination III)	Cardiac

Laboratory Course Schedule:

WEEK	TENTATIVE EXAM DATES	LECTURE TOPIC/TEXT ASSIGNMENT
1		Endocrine Anatomy and Homeostatic Pathways
2		Endocrine Anatomy and Homeostatic Pathways

3		Endocrine Anatomy and Homeostatic Pathways
4		Endocrine Anatomy and Homeostatic Pathways
5	Laboratory Exam #1	
6		Respiratory Anatomy
7	Laboratory Exam #2	Respiratory Anatomy
8	Laboratory Exam #3	Blood Components
9	Laboratory Exam #4	Immunity Anatomy
10		Cardiac Anatomy
11		Cardiac Anatomy
12	Laboratory Exam #5	Cardiac Anatomy



# NORTHWEST FLORIDA STATE COLLEGE

## APPENDIX - A

### A SELECTED BIBLIOGRAPHY

Alberts, B., Bray, D., Lewis, J., Raff, M., Roberts, K., and Watson, J. (1994). Molecular biology of the cell (3rd ed.). New York, NY: Garland Publishing, Inc.

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Berne, R., & Levy, M. (1992) Cardiovascular physiology (6th ed.). St. Louis, MO: Mosby.

Brooks, G. A., Fahey, T.D., & White, T.P. (1996). Exercise physiology: Human bioenergetics and its applications (2nd ed.). Mountain View, CA: Mayfield Publishing Company.

Burtis, C., & Ashwood, E., (1996). Tietz fundamentals of clinical chemistry (4th ed.). Philadelphia, PA: W.B. Saunders Company.

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## Campus Resources

### Academic Services

Academic resources and support for student success are now centralized in the Learning Commons (building 500). The Learning Commons comprises the Library, Academic Success, Tutoring, Math Lab, and other academic support services. Students are encouraged to visit the Learning Commons for assistance and to take advantage of individual and group study areas, computers, whiteboards, and free printing. Visit the [Learning Commons](#) page for hours and information.

### Tutoring

Free tutoring is offered to all NWFSC students in individual or small group formats for courses in math, science, business, writing, and language. Assistance with study and organizational skills are also available as well as the option to submit a paper for feedback and help with writing skills. Tutoring sessions are provided in person or remotely through Zoom. Appointments are preferred to guarantee time with a tutor, but walk-in support may also be available. Visit [Learning Commons - Tutoring](#) for more information and open hours for walk-in support. Email [lccoach@nwfsc.edu](mailto:lccoach@nwfsc.edu) for questions and assistance with services at other campus locations.

### Testing Center

The Testing Center administers college admissions tests, placement tests, proctored exams, ACT/SAT, GED, CLEP, and DSST (formerly known as DAN TES). Make-up exams may be taken in the Testing Center, with instructor permission. General test information concerning testing with accommodations, testing center locations, hours and scheduling may be accessed on the Testing Center website at [Testing Center](#).

### Military and Veterans Services

Northwest Florida State College provides a full range of benefits and services to [service members, veterans, and their dependents](#).

#### Veterans Success Center

The Veterans Success Center is located on the Niceville campus. The staff at the Veterans Success Center can assist student veterans and eligible family members pursuing their educational, professional, vocational objectives, and to transition into the workplace. The Veterans Success Center is a central location for student veterans and eligible family members to initiate their VA Educational Benefits, receive VA specific academic advising support from a Student Success Navigator, and utilize state-of-the-art infrastructure and technology in designated areas to foster success. The Veterans Success Center offers a tranquil, professional, and respectful location to create a cooperative community for student veterans and provides resources for leadership, support, advisement, and campus engagement as part of Northwest Florida State College Office of Financial Aid, not the U.S. Department of Veterans Affairs (DVA).

New students are highly encouraged to make their initial inquiries for VA educational benefits to the Veterans Success Center. For more information please call [850-502-2895](tel:850-502-2895) and select option 5, or email [va@nwfsc.edu](mailto:va@nwfsc.edu) , or visit our website at [www.nwfsc.edu/veterans/](http://www.nwfsc.edu/veterans/).

#### Military Tuition Assistance

Northwest Florida State College is proud to be a military friendly college. We encourage active-duty military members to consider a DOD Tuition Assistance program. These programs, available from the member's respective military branch, can help subsidize the cost of tuition. You must apply for tuition assistance by following your military branch's procedures and filling out their provided form. Please contact your local education center for more detailed requirements. Questions about Military Tuition Assistance benefits may be directed to 850-502-2895 or viewed on the College's website, [www.nwfsc.edu/tuition-assistance/](http://www.nwfsc.edu/tuition-assistance/)

#### VetSuccess on Campus

VetSuccess on Campus (VSOC) is a program through the Veterans Benefits Administration that places an experienced Veterans Readiness and Employment Counselor directly on campus to assist and support student veterans and eligible family members. The VetSuccess on Campus Counselor serves as a "liaison" for veterans on campus. All student veterans, Active Duty service members, and family members attending NWF State College can access the Department of Veterans Affairs through a full-time VA Counselor. Contact Maronda Clark, VetSuccess on Campus Counselor at [Maronda.Clark@va.gov](mailto:Maronda.Clark@va.gov) or by phone at 850-678-5111 ext. 6752.

#### Welcome to Class

Thank you for choosing NWFSC for your education—and welcome to class!