

## Syllabus – BSC2085 Human Anatomy and Physiology 1 – Spring 2023

Spring C (January 9 – May 4)

### I. Course Information

Course title:	Human Anatomy & Physiology I
Course number and section:	BSC2085 sections 5
Credit hours:	3
Class meeting location:	Section 5: building 2 room 114
Class meeting days and times:	Friday 11:00 AM – 1:30 PM
Instructor:	Matthew Carrigan
Email:	carrigam@cf.edu
Telephone:	352-873-5800 ext. 1812
Office location:	building 2, room 218B Ocala Campus
Office hours:	Monday: 8:00 – 9:30 AM & 4:00 – 4:30 PM <i>Tuesday: online 12:00 – 1:30 PM</i> Wednesday: 8:00 – 9:30 AM <i>Thursday: online 12:00 – 1:30 PM</i> Friday: 8:00 – 11:00 AM & 1:30 – 2:00 PM and by appointment

The best way to contact me is through Canvas email. Please use Canvas email as your first-choice for contacting me to ensure the fastest possible response.

I usually respond to email within 24 hours, but do not expect rapid responses if you message me in the evenings or weekends. If you have not received a response within 24 hours, feel free to send a second email just to make sure your email was not lost (I will never be upset by receiving a kind reminder if it has been more than 24 hours).

Extended Emergency Closure: For emergency campus closings (natural disasters, etc.) call 352-291-4499 or 800-831-9244 or check our [website](#) (CF.edu).

## II. Course Description

The human body, like all other forms of life, is a complex biochemical machine, and so understanding the biology of the human body first requires understanding some foundational biochemistry. We will start the semester exploring how an atom is constructed, and then how this leads to the formation of molecules (atoms connected by covalent bonds). This will allow us to understand how a cell is built, and from here how cells interact with one another. Most "physiology" occurs at the molecular and cellular level, and we will explore how this works in the nervous system, vision and hearing, muscle contraction, epithelium and bone formation.

**Pre/Corequisites:** prep reading, prep math, prep writing

### Required Course Materials:

- Required Textbook: *Fundamentals of A&P* (11<sup>th</sup> edition) by Martini, Nath, & Bartholomew (ISBN: 9780136874089)
- Honorlock (cost ~\$10/semester)
- Additional materials – including Directed note-taking Worksheets assignments – will be provided in Canvas. You are encouraged to have a folder or binder to keep this material organized as you print it. (You are not required to print any of it, but most students find that printing this material helps them learn better.)

## III. Course Objectives & Student Learning Outcomes

**Course Objectives.** Enable students to do the following:

- Describe what Anatomy & Physiology.
- Describe the major levels of organization from simplest to most complex.
- Recognize the major organs included in each of the systems.
- Describe the concept of homeostasis and feedback mechanisms.
- Apply anatomical terminology correctly.
- Describe atoms, atomic structure, and interactions that occur between atoms.
- Describe how atoms combine to form molecules and compounds.
- Describe how enzymes work, and understand pH and buffers.
- Recognize the various organic macromolecules (carbohydrate, lipids, proteins & nucleic acids).
- Describe the structure of a typical cell, its plasma membrane and various organelles.
- Describe how the cell uses DNA to produce proteins and the significance of this process.
- Describe how materials are transported in and out of the cell.
- Describe the structure of the Integumentary system, and the functions associated with this system.
- Describe Osseous Tissue and Bone structure.
- Describe how muscle contraction works at the molecular and cellular level.
- Describe the Nervous System (what makes up neural tissue, and how impulses are conducted).
- Describe the structure and function of the spinal cord, spinal nerves and spinal reflexes.
- Describe the structure and function of the brain and cranial nerves.
- Describe the Somatic Nervous system and Sensory pathways, the autonomic nervous

**Learning Outcomes & How Measured.**

This list offers you a consistent way to see how CF’s global learning outcomes are assessed in each class. This is for information purposes only and does not change the grading system used in this class. Only those learning outcomes relevant to this course are included below.

Critical Reasoning: The student will reflect, analyze, synthesize, and apply critical thinking.

- Accurately interpret evidence, statements, graphics, questions, etc.  
How Measured: Classroom Activity, Exams
- Identify important arguments.  
How Measured: Exams, Discussion Forum, Sample Question Sets
- Thoughtfully analyze and evaluate alternative points of view.  
How Measured: Exams, Discussion Forum, Sample Question Sets
- Draw valid conclusions.  
How Measured: Classroom Activity, Discussion Forum, Sample Question Sets
- Justify and explain assumptions and reasons.  
How Measured: Exams, Classroom Activity, Discussion Forum, Sample Question Sets

**IV. Assessment**

Letter grades will be based on the following point distributions:

- A = 900 points to 1000 points
- B+ = 870 points to 899 points
- B = 800 points to 869 points
- C+ = 770 points to 799 points
- C = 700 points to 769 points
- D = 600 points to 699 points
- F = 0 points to 599 points

I will round up grades to the nearest whole point, but I will not round grades based on percentages. For example, if you finished the semester with 897.6 points, I would round that score to 898 points, which is B+.

<b>Assessment</b>	<b>due</b>	<b>points</b>
Syllabus Quiz	By 1 <sup>st</sup> Sunday of the semester	14
Post self-introduction video to Canvas	By 1 <sup>st</sup> Sunday of the semester	7
Reply to at least two video introductions	By the 2 <sup>nd</sup> Sunday of semester	7
Directed Notetaking Worksheets (DNW, Modules #1 - 12)	Due <b>Fridays</b> by *9 am* most weeks (except exam weeks) 10 points x 12 Modules =	120

Discussion Forum posts (DF, Modules #1 - 12)	Due <b>Saturday</b> by 11:59 pm most weeks (except exam weeks)  3 points x 12 Modules =	36
Sample Question Set (SQS, Modules #1 - 12)	Due <b>Saturday</b> by 11:59 pm most weeks (except exam weeks)  3 points x 12 Modules =	36
Check-in Quizzes (CiQ, Modules #1 - 12)	Due <b>Monday</b> by 11:59 pm most weeks (except exam weeks). Lowest two quiz grades are dropped  10 points x 10 Modules =	100
Exam #2	See course schedule	230
Exam #3	See course schedule	280
	<b>total</b>	<b>1000</b>

### Directed Notetaking Worksheets (DNW)

You will have a “Directed Notetaking Worksheet” due most weeks before our first class of the week. Worksheets consist of a series of questions that you answer by watching video lectures, reading from your textbook, or examining handouts. By answering the questions, you are taking notes on the material. This is the main way in which you are going to be exposed to course material, so it is critical that you complete these assignments every week and on-time. The worksheets, and the accompanying modules used to complete them, are designed to prepare you for the exams.

Directed Notetaking Worksheet are graded based on completion rather than accuracy. Completion means that > 90% of the questions have been answered. You will submit visual confirmation of your completed work through a Canvas link to get credit. You have three basic ways you can earn these points.

1. Print the Worksheet. Take notes directly on the printed worksheet. Upload photographs of your completed pages to Canvas. (This is the preferred way for you to do this; it is very easy with the Canvas smartphone app!)
2. Take notes in a separate notebook. Upload photographs of your completed notes to Canvas. (Make sure it is clear every question has been answered if you do it this way.)
3. Directly take notes on a digital version of the Worksheet’s PDF file. Upload your completed file to Canvas.

This is a note-taking assignment and I will not take my time to grade every single student’s notes for completion and accuracy. Between other on-line activities and communicating with me directly, you have many ways to verify that your worksheets are correct. (However, if you actually follow instructions and go to the source material as directed by the Worksheets, this should rarely be an issue!)

Worksheets submitted late will lose 10% per day starting the hour they are due.

### **Check-in Quizzes (CiQ)**

Each of the 12 modules will have a Check-in Quiz that covers material discussed in lecture that week and from the DNW. The quizzes will be 5 – 10 multiple choice questions. The quizzes will be administered through Canvas and utilize Honorlock. Quizzes will open after the final lecture of each Module, and will be due by 11:59 PM a few days later (see Canvas and schedule below for actual due date). Each quiz is worth ten points, and the highest ten of the twelve quizzes will count towards your final grade, for a total of 100 points.

### **Discussion Forum (DF)**

A Discussion Forum (DF) will be open in Canvas for each Module. The Discussion Forum will be open from 9:00 AM on Monday through 11:59 PM on Saturday. This will give you a chance to interact with your classmates and ensure that you understand the major points for that week's worksheet. You will earn 3-points each week for participation in the DF. A video with details on how to earn these points is available on the Canvas Syllabus page. With 12 Modules, there will be 12 Discussions worth a total of 36 points.

### **Sample Question Set (SQS)**

A set of practice exam questions called Sample Question Set will be posted to Canvas for each Module. Like the Check-in Quizzes, these questions are examples of what to expect on each unit exam. The SQS are more involved than the CiQ, and are due 1 – 2 days after the final lecture of each week (see Canvas and schedule below for actual due date). Unlike CiQ, SQS are "open note" (Honorlock is not required). Each SQS is worth 3-points. SQS are graded similar to DNW: you do not have to get the answers correct – a reasonable attempt to answer each question and submitting on-time will earn full credit. Of course, the more seriously you attempt to answer the SQS correctly, the more you are learning and preparing for the Unit Exams (which are not open-note).

With 12 Modules, there will be 12 SQS submissions worth a total of 36 points.

- **IMPORTANT:** The morning after SQS are due, I will post an Instructor's Commentary will give you detailed guidance on how to answer questions, explanations for why I won't accept certain answer types, and what you should focus your studying on for the exam.

### **Important Comments Regarding Online Submission via Canvas**

Students sometimes experience problems submitting assignments with the Canvas App at high-traffic times (e.g. evenings between 8pm – 12am or 30-minutes before the deadline). I am not responsible for problems you encounter with the Canvas App. There are occasionally computer glitches in which you submit your assignment but it is not properly received, so I encourage you to take a photo or screen shot documenting each submission so that I can fairly remove the late penalty.

If your submission does not go through on-time or you experience a last-minute computer or internet failure, please re-submit as soon as possible and accept the lost points. If you submit assignments well-ahead of schedule, you will be better prepared and less likely to lose points. Extensions and excuses for late homework will only be permitted under extreme circumstances...waiting to the last minute and experiencing a wireless disruption and not double-checking your submissions will not count as extreme. Again, when I'm grading worksheets, I am only assessing \*completeness\*.

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**Exams.** Most of your grade will be based on three exams. The question-type and content-matter on exams will be similar to SQS.

Biology is intrinsically cumulative, and thus the exams are also cumulative. To this end, the exams increase in value over the course of the semester, to ensure all new material is emphasized appropriately. Exam point values and point-breakdowns by Module are shown below:

Exam #1: 170 points: All points linked to Modules #1 – 4

Exam #2: 230 points: 170 points (Modules #5 – 8) + 50 points (Modules #1 – 4)

Exam #3: 280 points: 170 points (Modules #9 – 12) + 110 points (Modules #1 – 8)

\*There are no exam re-takes because you do not like your exam grade\*. Because the value of exams increase, you can recover from a weak performance on Exam #1 by improving for the other two exams!

### **Exam Proctoring via Canvas / Honorlock**

I believe it is in student's best interests to take exams in a low-stress environment, at a time and place that allows the student to perform optimally, and with as much time as the student requires. Student learning is therefore assessed primarily through quizzes and exams <taken outside of class via Canvas>.

In order to verify student identity on assessments and promote fairness and academic integrity, this course requires proctored assessments online through Honorlock or at a CF Testing location. Fees for proctored online proctoring using Honorlock generally range between \$5 per assessment or \$10 per course. Proctored online assessments via Honorlock require that you have a computer with Google Chrome, webcam and microphone.

You will not be allowed to use a phone, access notes or text books, use a calculator, or have other people in the room with you while taking these quizzes and exams. You are allowed to use a piece of blank scrap paper on each exam to work out answers or perform calculations before entering your answer.

The \*quizzes\* are designed to take approximately 10 minutes, but you will have 45 minutes to complete them. The \*exams\* are designed to be completed during a 75-minute in-person lecture period, but you will have a 5-hour window to take each exam that begins at least one hour before our regular class time and extends for at least one hour after our regular class time. Because the scheduled testing window for exams overlaps with the normally scheduled lecture, students should not have scheduling conflicts. The exam dates are shown in the course schedule (see below) – please make necessary arrangements to take your exam at the scheduled time. On rare cases, students will be permitted to take the exam <earlier> than originally scheduled, but students will only be permitted to take the exam later than scheduled when there is an unforeseen emergency (documentation of which is required).

Students can request to take the exam in the regular lecture room during the scheduled exam time, although it is at the instructor's discretion as to whether this option is provided. Students who wish to take an exam in-person should notify the instructor at least 48 hours in advance.

### **Attendance**

You are required to attend all class meetings. Non-attendance does not constitute withdrawal from this course. It is your responsibility to complete the withdrawal forms by the appropriate date.

Lectures are designed to facilitate learning. Learning activities in lecture can rarely be made-up. Each student is expected to attend all lectures unless they are sick or have a personal emergency (death in the family, giving birth, etc.).

To encourage students who are feeling sick to stay home rather than come to class, lectures will be recorded via Zoom and made available at student request.

Regular and punctual attendance is the responsibility of the student. Documentation of student absences will begin the first class the student is registered.

### **Make-up policy and Late submissions**

You do not need to disclose personal details, but let your professor know as soon as possible if something is preventing you from participating or completing work.

Make-up work will not be given unless there is an emergency or if I have given you prior approval. In such an event, you must notify me <before the exam or assignment due date> unless the emergency prohibits it. You might be asked to bring proof of the emergency. A make-up exam must be taken within one week of the original exam date unless the emergency prohibits it.

Documented medical or legal excuses will allow you to take a make-up exam or get an extension on assignments without a late penalty. You will only be given seven calendar days to make up Exam #1, Exam #2, or assignments. Make-ups will not be permitted for Exam #3, as there is not enough time between that exam and final grade submissions to reasonably arrange a make-up exam. In this case a student will earn a grade of "I" (Incomplete).

Medical excuses must be from a health care provider. Notes from parents will not be accepted, even when those parents are health care providers.

If a student misses a scheduled exam for non-documented or non-emergency reasons (e.g. overslept, forgot, etc.), the student should contact the instructor immediately. In these cases, the instructor reserves the \*option\* to allow a student a make-up exam, but usually with a 10% \*per day\* penalty.

Discussion Forum (DF) and Sample Question Sets (SQS) assignments are not accepted late (unless there is a documented emergency). Directed notetaking worksheets (DNW) and Check-in Quizzes (CiQ) submitted late will lose 10% per day starting the hour they are due. Students are encouraged to submit assignments \*the day before\* the final due date to avoid losing points because of inevitable computer glitches.

The late penalty may be waived by the instructor in the event of an emergency. In such an event, you must notify your professor as soon as possible. Out of fairness to other students, you will be asked to provide documentation of the emergency. Late assignments must be submitted within one week of the original due date unless the emergency prohibits it.

### **V. Course Schedule/Outline**

Module #1 – 4

Week #	date	Lecture Topic	Assignments & Assessments	points
<b>Week 1</b>	Friday Jan 13	Course Introduction	self-introduction video; <u>due by 1<sup>st</sup> Sunday of semester</u>	7
			Syllabus Quiz; <u>due by 1<sup>st</sup> Sunday of semester</u>	14
<b>Week 2</b>	Friday Jan 20	Module 1: Homeostasis, Matter and Energy	<b>DNW (Directed Notetaking Worksheet)</b> ; due Friday by 9am.	10
			reply two intro videos; <u>due by 2<sup>nd</sup> Sunday of semester</u>	7
			<b>DF (Discussion Forum) &amp;</b>	3
			<b>SQS (Sample Question Set)</b> , both due Saturday 11:59 PM	3
			CiQ (Check-in Quiz); due Monday 11:59 PM	10
<b>Week 3</b>	Friday Jan 27	Module 2: Water, pH and Organic Macromolecules	DNW; due Friday by 9am.	10
			DF & SQS, both due Saturday by 11:59 PM	3
			CiQ, due Monday by 11:59 PM	10
<b>Week 4</b>	Friday Feb 3	Module 3: Cell Structure & Membrane Transport	DNW; due Friday by 9am.	10
			DF & SQS, both due Saturday by 11:59 PM	3
			CiQ, due Monday by 11:59 PM	10
<b>Week 5</b>	Friday Feb 10	Module 4: Cell Physiology and Membrane Potential	DNW; due Friday by 9am.	10
			DF & SQS, both due Saturday by 11:59 PM	3
			CiQ, due Monday by 11:59 PM	10
<b>Week 6</b>	Friday Feb 17	<b>Exam #1</b>	<b>8:30 AM – 1:30 PM</b>	<b>170</b>



**Module #5 – 8**

<b>Week #</b>	<b>date</b>	<b>Lecture Topic</b>	<b>Assignments &amp; Assessments</b>	<b>points</b>
<b>Week 7</b>	Friday Feb 24	Module 5: Action Potential and Synaptic Transmission	DNW; due Friday by 9am.	10
			DF & SQS, both due Saturday by 11:59 PM CiQ, due Monday by 11:59 PM	3 3 10
<b>Week 8</b>	Friday March 3	Module 6: Neuronal Pathways, Reflexes & Spinal Cord	DNW; due Friday by 9am.	10
			DF & SQS, both due Saturday by 11:59 PM CiQ, due Monday by 11:59 PM	3 3 10
<b>Week 9</b>	Friday Mar 10	Module 7: The Brain, Cranial Nerves & Sensation	DNW; due Friday by 9am.	10
			DF & SQS, both due Saturday by 11:59 PM CiQ, due Monday by 11:59 PM	3 3 10
<b>Spring Break</b>	Mar 13 - 19	<b>No class – Spring Break</b>		
<b>Week 10</b>	Friday Mar 24	Module 8: Vision, Hearing and Equilibrium	DNW; due Friday by 9am.	10
			DF & SQS, both due Saturday by 11:59 PM CiQ, due Monday by 11:59 PM	3 3 10
<b>Week 11</b>	Friday Mar 31	<b>Exam #2</b>	<b>8:30 AM – 1:30 PM</b>	<b>230</b>

**Module #9 – 12**

<b>Week#</b>	<b>date</b>	<b>Lecture Topic</b>	<b>Assignments &amp; Assessments</b>	<b>points</b>
<b>Week 12</b>	Friday April 7	Module 9: ANS & Skeletal Muscle Organization	DNW; due Friday by 9am.	10
			DF & SQS, both due Saturday by 11:59 PM CiQ, due Monday by 11:59 PM	3 3 10
<b>Week 13</b>	Monday April 14	Module 10: Skeletal Muscle Contraction & Energetics	DNW; due Friday by 9am.	10
			DF & SQS, both due Saturday by 11:59 PM CiQ, due Monday by 11:59 PM	3 3 10
<b>Week 14</b>	Monday April 21	Module 11: The Integument	DNW; due Friday by 9am.	10
			DF & SQS, both due Saturday by 11:59 PM CiQ, due Monday by 11:59 PM	3 3 10
<b>Week 15</b>	Friday April 28	Module 12: Osteology <b>Or option to take Exam #3 (see below)</b>	DNW; due Friday by 9am.	10
			DF & SQS, both due Saturday by 11:59 PM CiQ, due Monday by 11:59 PM	3 3 10
	Friday April 28	<b>option to take Exam #3</b>	<b>8:30 AM – 1:30 PM</b>	<b>280</b>
<b>Week 16</b>	Monday May 1	<b>Option to take Exam 3: Section 7 (2:00 class)</b>	<b>8:30 AM – 1:30 PM</b>	<b>280</b>
	Wed May 3	<b>Option to take Exam 3: Section 6 (12:30 class)</b>	<b>8:30 AM – 1:30 PM</b>	<b>280</b>

Due to unforeseen happenings, it may be necessary for the course assignment schedule to be altered. I will always strive to be fair about any changes.

## VI. Miscellaneous

### How can I earn a good grade in this class?

- Get the textbook the first day of class, and read it often. A lot of the material is complicated, so expect that you will need to read sections multiple times to fully understand it. Do not skip over words that you do not understand – instead, pause and look up the word or concept so what you are reading makes sense. Do not skip over figures – these usually highlight and summarize important concepts.
- Regularly preparing for, attending, and participating in class is essential. After all, why voluntarily sign up and pay for something (e.g. concert, movie, or this class), and then not attend or not pay attention? Lack of attendance, or attending but not participating in class, is equivalent to not caring about learning.
- This is a 3-credit class, and thus requires about 9 hours of study time outside of lecture per week. Similar to exercising, regular effort works much better than cramming. The optimal duration for a brain or muscle workout is usually less than an hour (depending on the how strenuous the exercise). Habit works better than good intentions, so create a schedule that includes 30-60 minutes of studying each morning, and another 30-60 minutes each afternoon or evening. Start the afternoon session by trying to recall what you learned during the morning session, then start learning new material.
- Have a contingency plan for submitting assignments and completing quizzes and exams in the event of a computer or internet failure. A computer/internet problem is not a valid excuse for submitting an assignment, quiz, or exam late. The best plan begins with “give yourself extra time by submitting early”. It is also important to trouble-shoot using Honorlock on your computer by using the Honorlock Practice Test.
- Create a study group. Find someone in the class to study with and who will hold you accountable. Make an appointment with the CF tutoring center at the same time <every week>. People learn best when they talk about the material with someone else.
- Come talk to me during my office hours as soon you encounter a problem or confusion. We can usually resolve the issue quickly, and you can get back on track towards success. Waiting to address the problem will only make the problem grow.
- Review your mistakes. Sadly, we learn best when we make mistakes. Review why you went wrong on each quiz and on unit exams. Come to my office hours to review your errors with my help.

**Laboratory Disclaimer.** I teach this lecture in conjunction with a laboratory section of BSC 2085L and the two courses are synchronized based on the order in which I cover content. If you are not enrolled in my laboratory section it is your responsibility to compensate for any laboratory material that you have not yet covered but that I expect has already been covered. I will do what I can to assist you – including making my lab manual available to you – but it is your responsibility to identify any gaps in your knowledge and address them.

**Distractions (cell phones, iPods, laptops, etc.).** Use of cell phones, laptops and other electronic devices are often distractions that adversely affect other students, much the same as conversations among students. If you do not wish to pay attention in class, you are free to leave, but I expect all students to be considerate of others students - keep all cell phones and laptops out of sight (or sit in the back row) and do not disrupt the learning environment with conversations during lecture.

**Student Services, Important Dates, and College Policies.** The College of Central Florida is committed to helping you succeed and achieve your academic, personal and career goals. There are a wide range of resources and support services available to you. When you connect to resources and support systems on campus early, you are much more likely to be successful in your classes and complete your path more quickly. One example is through an Early Support Program, where you may receive an email indicating your professor or advisor is reaching out directly to help connect you to support services. This may include connecting you to tutoring, financial support, psychological support services, and disability services just to name a few. Be aware, you can also reach out to these services on your own as well. Additionally, we offer free tutoring, disability services, a testing center, and many other resources which are all available to you. [Please refer to the College Resources, Dates, and Policies document in your Canvas course to learn more about these supports and policies.](#)

The CF Student Assistance Program (SAP) is a confidential resource for assisting students who may have personal problems which could affect their school, work, or home lives. SAP provides early intervention and professional assessment and counseling to best meet the needs of the student. Services are free to all active CF students. The SAP is managed by BAY CARE LIFE MANAGEMENT, a health management organization. A student may call a toll free helpline during regular business hours Monday through Friday from 8:30 a.m.-5 p.m. For crisis situations after hours, on weekends, or holidays a student may call the same number and the therapist on duty will be paged and will promptly respond to the call. For services a student may call the following toll free number: 1-800-878-5470. CF also has a counseling office where students may receive free confidential professional counseling by State licensed clinicians. For more information you may call 352-854-2322 ext. 1760 or visit the counseling office at the Bryant Student Union, room 204B, or email [ballardm@cf.edu](mailto:ballardm@cf.edu).