

**Welcome to Human Physiology!** This is an introductory course that explores how selected parts of the human body function. This course will introduce some of the known functions of **organ systems, organs, tissues and cells** found within the human body.

**Physiology** is the study of **normal** body function. In contrast, **pathophysiology** is the study of **abnormal** body function such as occurs in some diseases. **Many aspects of human physiology remain poorly understood**, and improving the understanding of physiology is the goal of ongoing scientific research (conducted by scientists called **physiologists**).

**Please note** that human physiology is an enormous and very complex subject, and we will not be able to cover every aspect of it within a single semester. The instructor aims to stoke your enthusiasm for future learning about physiology.

**THIS SYLLABUS IS NOT A CONTRACT.** Instructor (Bingham) reserves the right to revise **any** aspect of this syllabus at **any** time.

**FACTUAL INFORMATION.** The primary **learning objective** of this course is to acquire **factual information** about human physiology. Because of this, **you will be expected to memorize considerable detailed information. You will also be expected to understand important concepts and processes.**

**Lecture Time & Place:** Monday /Wednesday / Friday 11:30 – 12:20 PM in REEVES 186

**Laboratory Time & Place:** all laboratories will be conducted in TBD

**Instructor:** Dale J “Jamie” Bingham PA-C, MPAS, MPH

**Office:** TBD

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**Office Hours:** Please contact me by email [healthteceducation@hotmail.com](mailto:healthteceducation@hotmail.com) or by text to arrange a meeting I will be available before and after class

**Course Fees:** There is a **fee of \$80** associated with the laboratory portion of this course.

**Textbook:** There is **NO required textbook** for this course. I have placed numerous copies of several different human physiology textbooks on reserve within the **USU Library Course Reserves** for your use. If you want to buy your own textbook, I recommend Fox's Human Physiology, 13th edition **or later**. However, almost any standard human physiology textbook would be adequate, as long as it was published fairly recently (within the last 5 or so years).

**Grading:** There will be four (4) lecture exams. **Your lowest exam score will be automatically dropped by Canvas and will not count toward your grade.** If you miss an exam, **for any reason**, that exam score (zero) will become your dropped exam score. **NO MAKE-UP EXAMS WILL BE GIVEN.** If you miss additional exams, you will also receive scores of zero points for those missed exams, and **they will count towards your final grade.**

**FINAL GRADE:** Your final letter grade in this course will be determined by your **three (3) highest-scoring lecture exams** and your **total accumulated lab points** from the 10 laboratory exercises and the single lab final exam.

**Lecture exams will cover material presented during lecture.** Each lecture exam will be worth approximately 100 - 160 points. On these exams, you will be responsible for **ALL** of the material presented in class, **regardless** of whether it is presented verbally, written on the white board, or projected on the screen. Projected lecture material will be recorded on Panopto and posted to Canvas. However, occasional technical problems **WHICH ARE BEYOND MY CONTROL** may prevent lectures from being recorded. Because of this possibility, I will routinely make **audio-only** back-up recordings of lectures and will post them on Canvas as needed. Be aware that back-up audio recordings of lecture may not be available.

**How to Earn Points from Laboratories:** There are four (4) ways to earn points in lab:

1.) You **MUST** attend the lab section for which you are officially registered, because **ONLY** your official Graduate Teaching Assistant (GTA) is obligated to keep track of your lab points. GTAs in the other lab sections won't know who you are, and they will **NOT** record your points. Therefore, if you don't attend the lab section for which you are registered, **YOU WILL LOSE POINTS** and your final grade will be **reduced**.

2.) Up to **50 points per semester** can be earned by correctly answering, **before you attend lab**, the **Pre-Lab Questions** (Pre-Lab Questions will be distributed by your official GTA). Your GTA will grade your Pre-Lab Questions and keep track of your points for them, as well as your points for laboratory attendance and participation. Each set of Pre-Lab Questions is worth up to **five (5) points per week** but you **MUST ATTEND LAB** to obtain these points.

**IMPORTANT:** YOU WILL **NOT** RECEIVE ANY POINTS FOR CORRECTLY-ANSWERED PRE-LAB QUESTIONS **UNLESS** YOU ALSO **ATTEND** AND **PARTICIPATE** IN THE LAB.

3.) Up to **50 lab points per semester** can be earned by your **attendance** and **participation** in each laboratory activity. Make sure that your TA knows that you are present and are participating in the exercise. Attendance and participation are worth **five (5) points per week**.

4.) Up to **50 lab points maximum** can be earned by taking the Lab Final Exam, which **is composed by your individual laboratory TA**.

**SUMMARY OF POSSIBLE POINTS AVAILABLE IN THIS COURSE:**

|  |  |                           |
|--|--|---------------------------|
| Lecture Exams:                                   | your <b><i>3 highest</i></b> lecture exam scores | ~ <b>320 - 360 points</b> |
| Correctly answered Pre-Lab Questions:            | 5 points per week over 10 weeks =                | 50 points                 |
| Attendance & Participation in Lab Exercises:     | 5 points per week over 10 weeks =                | 50 points                 |
| Lab Final Exam (composed by your individual TA): |  | 50 points                 |
| Total LAB points:                                |  | <b>150 points</b>         |

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**TOTAL POSSIBLE POINTS AVAILABLE IN COURSE:** ~ **500 points**

**EXTRA CREDIT POINTS:** there are **NO** extra credit points available in this course. **NONE**. Don't even ask.

**FINAL GRADES:** Your final letter grade will be calculated by dividing your total number of accumulated points from both lecture and lab by the total number of possible points in the course.

**The Standard USU grading scheme that will be used to determine your final grade is:**

|    |   |        |    |      |
|----|---|--------|----|------|
| A  | = | 100 %  | to | 93%  |
| A- | = | < 93 % | to | 90 % |
| B+ | = | < 90 % | to | 87 % |
| B  | = | < 87 % | to | 83 % |
| B- | = | < 83 % | to | 80 % |
| C+ | = | < 80 % | to | 77 % |
| C  | = | < 77 % | to | 73 % |
| C- | = | < 73 % | to | 70 % |
| D+ | = | < 70 % | to | 67 % |
| D  | = | < 67 % | to | 60 % |
| F  | = | < 60 % |    |      |

**SUPPLEMENTAL INSTRUCTION:** Supplemental Instruction (S.I.) will be conducted twice per week by **Mr. Tyler Perkes**. The time and place of S.I. sessions will be announced in class and posted on Canvas.

**WEEKLY REVIEW SESSIONS:** Weekly reviews will be conducted by **Mr. Alex Tolman**. The time and place of the weekly review session will be announced later in class and posted on Canvas.

**Disability Resource Center:** If you have a condition that requires accommodation, please contact Dr. Adams and document your situation through the Disability Resource Center (DRC) **during the first week of classes.**

**Requests for an incomplete (I) grade** must comply with current USU regulations (see University Catalog).

**LECTURE SCHEDULE.** Lecture topics and order of presentation are **tentative** only and may be changed. Listed page readings correspond to Fox's Human Physiology, **13<sup>th</sup> edition** (Fox13e), which is on reserve at the USU Library.

| <b>Date</b>   | <b>Topic</b>   | <b>Readings in 2013e</b> |
|---|--|--------------------------|
| January 6   | Course introduction. Study techniques. How to do well in this class.                                     |                          |
| January 8   | Organs & organ systems   | Chapter 1-5              |
| January 10 <sup>th</sup>  | The four (4) primary tissue types  |                          |
| Jan 13 <sup>th</sup> & 15 <sup>th</sup>   | Cell structure & function  |                          |
| January 17  | Transmembrane transport  |                          |
| January 20 <sup>th</sup><br>January 22 <sup>nd</sup>  | <b><u>NO CLASS</u></b> MARTIN LUTHER KING DAY<br>Homeostasis & body fluid compartments                   | pg. 21                   |
| January 24  | Resting membrane potential   | Chapter 12               |
| January 27  | <b><u>EXAM #1</u></b> (approximately 120 points)   |                          |
| January 29 & 31 <sup>st</sup>   | Action potentials  | Chapter 12               |
| February 3  | Chemical synaptic transmission   | Chapter 12               |
| February 5 <sup>th</sup> & 7 <sup>th</sup>  | Central nervous system   | Chapter 12-15            |
| Feb 10 <sup>th</sup> & 12 <sup>th</sup>   | Skeletal muscle physiology   | Chapter 11               |
| February 14 <sup>th</sup>   | Endocrine physiology   | Chapter 17               |
| February 17 <sup>th</sup><br>February 19 <sup>th</sup><br>February 21 <sup>st</sup>                         | <b><u>NO CLASS</u></b> PRESIDENTS DAY<br>Hypothalamus & pituitary gland<br>Exocrine & endocrine pancreas | Chapter 17<br>Chapter 17 |
| February 24 <sup>th</sup>   | <b><u>EXAM #2</u></b> (approximately 140 points)   |                          |
| Feb 26 <sup>th</sup> & 28 <sup>th</sup>   | Diabetes & Adipokines (hormones secreted by fat)   | Chapter 17               |
| March 2 <sup>nd</sup> -7 <sup>TH</sup><br>March 9 <sup>th</sup><br>March 11 <sup>h</sup> & 13 <sup>th</sup> | SPRING BREAK<br>Respiratory physiology<br>The Heart, part one  | Chapter 22<br>Chapter 19 |

|                        |  |               |
|------------------------|--|---------------|
| March 16 <sup>h</sup>  | The Heart, part two  | Chapter 20    |
| March 18 <sup>th</sup> | The Vascular System  | Chapter 20-21 |
| March 20 <sup>th</sup> | Renal physiology   | Chapter 25    |
| March 23 <sup>rd</sup> | The digestive system   | Chapter 23    |
| March 25 <sup>th</sup> | The digestive system   | Chapter 23    |
| March 27 <sup>TH</sup> | REVIEW   |               |
| March 30 <sup>th</sup> | <b><u>EXAM #3</u> (approximately 140 points)</b>   |               |
| April 1 <sup>st</sup>  | Circadian rhythms & The Pineal Gland   |               |
| April 3 <sup>rd</sup>  | Sleep Physiology   |               |
| April 6 <sup>th</sup>  | Male Reproductive Physiology   | Chapter 27    |
| April 8 <sup>th</sup>  | Female Reproductive Physiology   |               |
| Chapter 19             |  |               |
| April 10 <sup>th</sup> | Stem cells, Reproductive cloning & Therapeutic Cloning                                     | Chapter 28    |
| April 12 <sup>th</sup> | To be determined   |               |
| April 25               | <b><u>EXAM #4</u> (approximately 100 - 160 points) - This last exam begins at 9:30 AM.</b> |               |

**LABORATORY meeting times**      All labs will be held in TBD

