Course Number: PHA 501
Course Title: Medical Physiology
Number of Credits: 4 credit hours
Prerequisites: Admission to the Physician Assistant Program
Days/Time: Monday 9:00-11:20; Thursday 10:00-12:20 (CGS 118)

Faculty: Dr. Monika Baldridge
(Course Director)
Office: Charles House 204 and CGS 103
Office Hours: Monday 11:30-12:30; Tuesday 1:00-2:00; and Thursday 12:30-1:30; by appointment; or just stop by
Phone: 262-524-7627
Cell: 414-238-3346
E-mail: mbaldrid@carrollu.edu

Course Description:
This course is an advanced study of the physiology of human organ systems focusing on cardiovascular, muscular, neuronal and sensory systems, renal and respiratory systems, digestion, metabolism, reproduction, and their control by the endocrine and central nervous systems that provide the basis for understanding disease and pharmacotherapeutic mechanisms.

Course Content:
This course is designed to provide the learner with a strong foundational knowledge in Medical Physiology. The student will actively engage in applying information within classroom settings. This means that case studies and clinical applications will be integrated with more traditional (lecture-type) teaching/learning as much as possible. Lecture/powerpoint, case studies, collaborative learning, and independent learning activities will be employed throughout the course. The specific learning objectives for this course are to be used as a guide for reading, studying, and preparing for the course examinations. Students are expected to be independent, self-directed learners.
**Student Expectations:**

- demonstrates a positive attitude toward learning
- is on time for all scheduled classes, including timely return from breaks
- completes readings and assignments prior to class
- asks relevant and understandable questions
- takes full responsibility for learning and self-directed learning activities
- shows respect for self, other students, and faculty
- refrains from revealing negative feelings through tone of voice or body language
- refrains from disruptive activities during class including eating, talking, getting up and down, use of cell phone, etc.
- relies on personal resources before approaching others for help
- demonstrates cooperation with and mutual respect for peers
- responds to faculty, staff and peers readily and appropriately

**Instructor Expectations:**

- demonstrates a positive attitude towards the facilitation of learning
- is on time for all scheduled classes
- should the need arise, reschedules class time with appropriate and timely notification to students, faculty, and staff
- provides appropriate course materials for class preparation prior to class
- is available for office hours or appointments to assist with questions; responds to faculty, staff, and students readily and appropriately
- listens attentively and initiates communication which is appropriate and timely
- identifies limitations in knowledge and provides appropriate resources for student learning
- provides timely and constructive feedback for assignments and assessments
- shows respect for self, students, and other faculty
- refrains from revealing negative feelings through tone of voice or body language
- demonstrates cooperation with and mutual respect for students, faculty, and staff

**Required Text:**

ISBN 9781455770052

**Grading:**

Grades will be assigned at the end of the semester according to the following scale:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
</tr>
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<tbody>
<tr>
<td>93 – 100</td>
<td>A</td>
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<tr>
<td>90 – 92.99</td>
<td>A/B</td>
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<td>83 – 89.99</td>
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<td>80 – 82.99</td>
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<td>60 – 69.99</td>
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<td>&lt; 60</td>
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**Attendance and Professionalism:**

Attendance at all class periods, laboratories, and practical experiences are mandatory unless otherwise indicated. Poor attendance (unexcused absences, tardiness, and unauthorized early departures), lack of preparation, and unprofessional behavior may result in a lower or failing grade and/or be reported to the program progression committee. If you will be absent, tardy, or need to be excused early you must notify the course director via e-mail or phone prior to the scheduled meeting time. Tardiness and unauthorized early departures will be considered unexcused absences unless prior notification is submitted. Unexcused absences of more than 10% of class time may result in a failing grade. Absences are excused only at the discretion of the course director and/or the PA Program Director. Students may be required to make up missed laboratory time (excused or unexcused) at the discretion of the course director.

**Statement on Academic Integrity:**

The Carroll University Academic Integrity Policy is located in the Carroll University Student Handbook. Students are encouraged to familiarize themselves with it. If a student violates this policy in any way, the instructor(s) reserve the right to impose a sanction of failure on the assignment/assessment or even failure in the course. If you have questions about appropriate citations, please ask your instructor. Some examples of violations include:

1. Plagiarism
2. Failure to return or removal of an exam or quiz
3. Submitting work completed by another individual
4. Any form of cheating during a quiz, lecture exam, or lab practical
5. Discussion of grades or sharing of answers to assessment materials

**Accommodations for Disabilities:**

Any requests for accommodation for physical or cognitive disability must be made through the Walter Young Disability Services Coordinator at Carroll University. Appropriate accommodations will be evaluated based on the program technical standards once notification has been received from the Walter Young coordinator. If an individual student has special needs or concerns about course requirements related to religious beliefs, cultural issues, or other issues, the student must contact the Program Director with a request for accommodation.

**Remediation:**

Students who receive a D or an F in this or any physician assistant year 1 course will be placed on academic probation.

During the course, a student who scores more than 2 SD below the mean on an exam/assessment may be required to complete additional work. The student will be contacted by the course instructor and asked to meet to discuss the remediation requirements for that particular assessment. Remediation requirements will be determined by the course instructor. When an instructor requires remediation of a student it does not affect the exam/assessment grade, nor does it improve the semester or course grade. Remediation is required to ensure that course objectives are met. It is expected that assigned work for the purpose of remediation be completed in a thorough, professional and timely manner. Satisfactory completion of
remediated work will be determined by the course instructor. Students may be required to complete additional work if the original remediation is deemed unsatisfactory.

Students should make every effort to resolve remediation issues with the course director. If a student is unable to resolve such issues s/he may request a review by the Didactic Subcommittee. All decisions made by the subcommittee are final. If remediation is not successfully completed by the end of the course/semester a grade of “Incomplete” will be given until the work is successfully completed. Please note that an incomplete course grade may delay program progression and/or graduation. Information regarding incomplete grades is available in the Graduate Catalog.

<table>
<thead>
<tr>
<th>EVALUATION</th>
<th>POINTS</th>
<th>DATE</th>
<th>Linked Objectives</th>
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<tbody>
<tr>
<td>Exam I</td>
<td>150</td>
<td>June 19</td>
<td>1,2,3,4,5,7</td>
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<tr>
<td>Exam II</td>
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<td>Papers (2)</td>
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<td>1,4,6,7</td>
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<td><strong>Total</strong></td>
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*Linkages between these course student learning goals and the Master of Physician Assistant Program goals are in alignment.

**Examinations:** These four will consist of a combination of multiple choice, short answer and essay questions. These exams will cover material as outlined in class, but an exam will usually be scheduled the week following the “end of material” for it. The essay questions may be related to a clinical condition and follow the format of the clinical case studies. Challenges to examination questions will be accepted for 1 week after the return of scores. Challenges must be submitted in writing via email with two written sources, at least one from recommended course readings. No books, papers, notebooks, cellphones, smartphones, I-pods, I-pads, blackberry, etc. or backpacks/bookbags will be allowed on/near your desk during an examination. Recommend keeping personal belongings in the back of the room or in lockers. Hats are prohibited during an exam. Cellphones, smartphones, I-pods, I-pads, blackberry, etc must be turned off during an examination.

**Discussion/ Participation:** The advancement of physiology and clinical practice depends upon thoughtful discussion. Therefore, your attendance in class is expected, will be monitored and your thoughtful participation in class and small group discussions will be noted.

**Topics in Medical Physiology/Pathophysiology Papers:** The field of physiology is constantly growing and expanding. Additionally, you all have areas of pathophysiology that you find especially interesting. This project is designed to allow you to explore pathophysiology along this avenue. The specifics of these papers will be given to you via a separate handout.
Course Goals:

Upon completion of Human Medical Physiology, students will have formed a strong foundational knowledge of normal Medical Physiology and basic Pathophysiology. The student will actively engage in applying information within classroom settings. Students will gain the ability to master physiological concepts through case studies, clinical applications, and formative assignments which will be integrated through a more collaborative learning environmental in a flipped classroom setting.

Learning Outcomes:

Upon successful completion of this course, students should be able to:

1. Describe the mechanisms that underlie the normal function of cells, and the tissues that they comprise, including but not limited to metabolism, membrane transport, intra- and intercellular communication, protein synthesis and action, and maintenance of homeostasis
2. Explain how organ and system physiological activities are related to pathophysiology
3. Outline each physiological system and describe similarities and differences in these systems as well as how they interact
4. Successfully apply knowledge gained in solving clinical problems
5. Demonstrate effective use of scientific literature databases to further their understanding of physiology
6. Effectively communicate information related to physiology to instructors and peers verbally and in writing

Student Learning Objectives:

EXAM 1: CELL MEMBRANE and NERVOUS SYSTEM PHYSIOLOGY

Cell Membrane

1. Explain the importance of homeostasis
2. Describe the major functions of the plasma membrane
3. Compare and contrast active and passive mechanisms of transport
4. Apply the forms of transport to physiologic mechanisms
5. Determine what occurs physiologically when cells are placed into various osmotic and tonic solutions
6. Describe the importance of membrane and cytosolic proteins
7. Understand the functions of non-gated and gated ion channels
8. Pathophysiology → describe the underlying problem in several ion channel diseases

Nervous System Physiology

1. Describe the structural and functional features of a neuron
2. Describe the factors that influence and maintain resting membrane potential
3. Distinguish between resting membrane potentials, action potentials, and local/graded potentials
4. Apply proper terminology to the types of polarization states, potentials and stimuli and describe how these terms apply during an action potential
5. Describe the events that occur during an action potential
6. Be able to mathematically calculate equilibrium potentials and predict the flow of ions
7. Compare and contrast absolute and relative refractory periods
8. Distinguish between continuous and saltatory conduction
9. Describe the cable/passive properties of neurons and glia
10. Pathophysiology – apply electrophysiologic concepts to demyelinating diseases
11. Identify the types of neuroglia based on structure, function, and location
12. Describe the four major types of myelin and their role in myelination and neuronal regeneration
13. Discuss the factors that affect the rate of impulse conduction along an axon
14. Compare and contrast electrical and chemical synapses
15. Define quantal release of neurotransmitters and how it is modulated by calcium
16. Explain the difference between excitatory and inhibitory postsynaptic potentials (EPSPs vs. IPSPs) and the mechanism by which each is generated—be able to apply the concept of summation
17. Pathophysiology – apply physiologic concepts to several neurologic disease states

**EXAM 2: SENSORY, ENDOCRINE, and MUSCLE PHYSIOLOGY**

**Sensory Physiology**
1. Describe the different criteria used for classifying sensory receptors and apply to each receptor response
2. Understand the concepts of receptive field and two-point discrimination
3. Describe sensory adaptation and apply to the function of phasic and tonic receptors
4. Describe sensory coding and transduction
5. Explain the concept of referred pain and apply to specific examples
6. Outline the structures of the CNS that transmit and process general sensory information (e.g. spinal cord, thalamus, primary sensory cortex, etc.).
7. Describe pain and thermal receptor stimulation, perception, and modulation
8. Describe the dual pathway for pain and analgesia of the nervous system
9. Pathophysiology—compare and contrast extra- and intracranial headache pain
10. Explain the physiology of gustation and olfaction (including adaptation)
11. Explain how the cranial nerves and structures of the CNS transmit and process gustatory and olfactory sensory information
12. Explain the principle events involved in the physiology of hearing and equilibrium
   - Pathophysiology of deafness and dysequilibrium
13. Describe the optics of the eye:
14. Explain image formation in the eye including refraction and accommodation, as well as actions that change the size of the pupil
15. Understand the pathophysiology of the visual system including where the image comes into focus relative to the retina
16. Describe how photoreceptors (rods and cones) and photopigments function Trace the signaling pathway for vision including cell types and CNS structures that transmit and process visual information
17. Communicate the visual outcomes if the visual pathway were severed at the optic nerve, optic chiasm, or optic tract

**Endocrine System**
1. Describe the cooperation of the nervous and endocrine systems in maintaining homeostasis
2. Differentiate between the classes of hormones according to chemical nature, solubility, and other properties
3. Fully describe steroid hormone naming, synthesis, mechanism of action, and signal transduction
4. Fully describe peptide hormone synthesis, mechanism of action, and signal transduction
5. Describe how lipid-soluble and water-soluble hormones interact with target cells to produce intracellular changes.
6. Compare and contrast negative, positive, and antagonistic feedback mechanisms and apply to every hormone system
7. Understand the underlying and resulting pathophysiology of hyposecretion and hypersecretion of hormones
8. Explain the role of the hypothalamus in the endocrine system and describe the anatomic and physiologic relationship between the hypothalamus and the anterior and posterior pituitary glands
9. Explain the role of the hypophyseal portal vessels linking the hypothalamus and pituitary
10. Describe the location, basic anatomy and hormones released by the anterior pituitary gland, posterior pituitary gland, thyroid gland, parathyroid glands, pancreas, adrenal glands, and gut
11. Describe the physiological effects of the hormones produced by the glands listed above
12. Understand the pathophysiology of each hormone system (only examples covered in lecture)

Muscle Physiology
1. Compare and contrast the 3 types of muscle tissue according to cellular structure, location, and level of control
2. Define and explain the importance of RMP and AP in muscle cell function and apply to events at the NMJ
3. Outline the sequence of events in muscle contraction and relaxation
4. Draw the tension curve for a simple twitch and explain what is happening during each of the phases of the twitch
5. Describe the effect of temporal summation, motor unit recruitment (spatial summation), and initial sarcomere length on skeletal muscle contraction
6. Differentiate between isometric and isotonic contraction
7. Discuss the role of creatine phosphate, myoglobin, and glycogen in muscle energy metabolism
8. Define and state factors contributing to treppe, tenanus, and fatigue
9. Compare and contrast slow and fast muscle fiber types in terms of mode of ATP synthesis, myoglobin and glycogen content, # of mitochondria, and blood supply
10. Fully describe the anatomy and function of muscle spindles
11. Describe golgi tendon organs and the corresponding reflex
12. Pathophysiology – Describe Muscular Dystrophy & differentiate the types of paralysis (lockjaw, flaccid)

EXAM 3: CARDIOVASCULAR and RESPIRATORY PHYSIOLOGY

Cardiovascular Physiology
1. Describe the location and structure of the heart valves and apply to how they function
2. Understand the difference between pulmonary & systemic circuits
3. Understand cardiac muscle action potential and the significance of a long ARP
4. Apply the special structural and functional characteristics of cardiac muscle to the physiology of muscle contraction
5. Trace the electrical conduction system of the heart
6. Explain Einthoven’s triangle and the purpose of an electrocardiogram and calculation of a MEA
7. Describe how each segment of the EKG (P, QRS, T waves) corresponds to the electrical activity and subsequent contraction of the myocardium
8. Describe the phases, timing and heart sounds associated with the cardiac cycle
9. Pathophysiology—apply electrical conductance and activity to electrical axis deviations and heart blocks
10. Discuss the underlying mechanisms of disorders related to the heart (e.g. arrhythmia, flutter, fibrillation, myocardial infarction)
11. Describe how blood pressure is measured and apply to the causes and effects of hypertension and hypotension
12. Define and explain the relationship between heart rate, stroke volume and cardiac output and apply to regulation of blood pressure (know normal values)
13. Define and be able to calculate pulse pressure and mean arteriole pressure
14. Discuss pressure changes within the cardiovascular system and apply to vessels and their distance from the heart
15. Discuss factors that affect total peripheral resistance and apply to mechanisms to regulate blood pressure
16. Explain in detail the local, neural, and hormonal mechanisms for controlling blood pressure
   - Chronotropic and inotropic agents
   - Apply to variations in calcium and potassium levels
17. Draw and explain pressure-volume loops
18. Understand the mechanisms that regulate stroke volume and apply to preload, afterload, and contractility
19. Understand the mechanisms to increase cardiac muscle contractile force and apply to how inotropic state is altered
20. Diagram and explain how the P-V loops are altered with exercise, epinephrine, and myocardial infarction
21. Explain and understand vessel hemodynamics
22. Apply problems with hemodynamics to aneurysm and atherosclerosis
23. Fully understand the determinants of blood pressure

**Respiratory Physiology**

1. Describe the functions of the respiratory system
2. Relate the structure to the function of the organs of the upper and lower respiratory tract
3. Distinguish between pulmonary ventilation, external respiration, internal respiration, and cellular respiration
4. Summarize the mechanisms of pulmonary ventilation and apply to:
   - The muscles involved in quiet and deep inspiration and expiration
   - Pressure changes that occur throughout the respiratory cycle
   - Factors that affect resistance to airflow
5. Explain Boyle’s Law and apply it to the principles governing respiratory airflow
6. Define, know normal values/proper units for, be able to calculate, and discuss the importance of assigned lung volumes, capacities, and measurements (i.e. TV, IRV, ERV, RV, VC, IC, FRC, TLC, FEV, MRV, and alveolar ventilation)
7. Describe factors that affect alveolar gas exchange
8. Summarize the pathophysiology of pneumothorax and infant respiratory distress syndrome
9. Apply Dalton’s Law and Henry’s Law to the context of alveolar gas exchange
10. Know the normal pressures of O₂ and CO₂ throughout the body
11. Compare and contrast how adjustments to perfusion and ventilation affect alveolar gas exchange
12. Outline the mechanisms for the transport of O₂ and CO₂ and state the relative amounts transported in each form
13. Diagram and explain the oxygen-hemoglobin dissociation curve and apply factors that affect the curve including temperature, pH, 2,3 DPG
14. Diagram and define the Bohr and Haldane effects
15. Justify how pH, CO₂, and O₂ influence the regulation of respiratory rhythm
16. Understand the regulation of respiratory rhythm in terms of: acidosis, alkalosis, hypocapnia, hypercapnia, hypoventilation, and hyperventilation
17. Understand the pathophysiology of asthma, pneumonia, carbon monoxide poisoning, emphysema, pneumothorax, infant respiratory distress syndrome, respiratory alkalosis/acidosis
Digestive Physiology
1. Distinguish between mechanical and chemical digestion
2. Diagram the structural and functional features of the layers of the GI tract
3. Synthesize the 3 GI regulatory mechanisms (neural, smooth muscle, hormonal)
4. Describe the source, amounts, composition, pH, and function of the digestive secretions (enzymes and hormones)
5. Relate neural and hormonal regulation of digestion
6. Outline what occurs during the 3 stages of a meal (cephalic, gastric, and intestinal)
7. Understand the types of motility that occur in each region of the GI tract
8. Describe the function and regulation of the GI sphincters
9. Explain the defecation reflex
10. Outline the pathophysiology of Zollinger-Ellison, GERD, and achalasia

Urinary Physiology
1. Describe the structure, function, and arrangement of the organs in the urinary system
2. Trace the path of blood flow through the kidney and apply key vascular components to control of glomerular filtration rate
3. Understand the physiologic functions of each nephron component
4. Compare and contrast cortical and juxtamedullary nephrons on the basis of location, structure and function
5. Outline the 3 basic steps/stages of urine formation in the nephron
6. Illustrate the components of the filtration membrane and the resulting composition of the glomerular filtrate
7. Calculate net filtration pressure (NFP) and apply to how it is modulated
8. Summarize the mechanisms that regulate glomerular filtration rate
9. Summarize the mechanisms and sites of reabsorption of Na+, Cl-, K+, H2O, glucose, and urea
10. Explain the role of tubular secretion and summarize the mechanisms and sites of secretion of K+, H+, urea, and drugs/toxins
11. Summarize the concept of a transport maximum (Tm) and apply it to glycosuria in an uncontrolled diabetic
12. Summarize how the countercurrent multiplier system works and explain its role in urine formation
13. Summarize the function, mechanism of action, site of action, and effects of the hormones that regulate Na+ and water reabsorption (i.e. aldosterone, ANP, ADH) and K+ secretion
14. Summarize how hormonal regulation of Na+ and H2O reabsorption affects blood volume and blood pressure
15. Compare and contrast osmoreceptors and volume receptors
16. Summarize renal assessment techniques
17. Compare and contrast the clearance of various substances and apply to their use in estimating GFR
18. Summarize the typical physical and chemical characteristics of urine
19. Understand abnormal physical and chemical characteristics of urinalysis
20. Compare and contrast diabetes mellitus and insipidus in terms of the mechanism by which they cause diuresis/polyuria
21. Understand the underlying mechanisms by which ADH, caffeine, nicotine, theobromine, and aldosterone regulate fluid volume
22. Summarize the importance of maintaining the pH of body fluids
23. Summarize the role of the buffer systems in maintaining acid-base balance
24. Compare and contrast respiratory and metabolic acid-base imbalances
25. Discuss causes and mechanisms of compensation for acid-base imbalances
**Male Reproductive Physiology**

1. Summarize male genetic and apply to embryonic development
2. Describe the structure and function of the testes including Sertoli and Leydig cells
3. Trace the production and path of sperm through the male reproductive organs
4. Diagram the male reproductive axis
5. Describe the structure and function of the accessory glands including their contributions to semen and their order of contraction
6. Review spermatogenesis including the stages of cell progression from spermatogonia into mature sperm
7. Describe the structure of mature sperm and the function of its components
8. Outline steroidogenesis and androgen transport
9. Understand pubertal and its stages
10. Summarize the target cells and effects of GnRH, FSH, LH, and inhibin
11. Summarize the functions of testosterone and other testicular androgens
12. Compare and contrast androgen negative and positive resistance
13. Apply hormonal and enzymatic abnormalities to male reproductive pathophysiology
14. Describe the stages of the male sexual response

**Female Reproductive Physiology**

1. Summarize female genetics and apply to embryonic development
2. Describe the structure and function of the ovaries, fallopian tubes, uterus, and vagina
3. Review oogenesis including the stages of cell progression from oogonia into a mature ovum and align stages with ovulation
4. Outline how the dominant follicle for ovulation is selected
5. Trace the pathway and possible fates of the ovum after ovulation
6. Describe the various stages in folliculogenesis
7. Compare and contrast the outcomes at the cellular levels of the 2-cell-2 gonadotropin theory
8. Outline steroidogenesis and resulting hormone transport
9. Diagram the female reproductive axis
10. Understand puberty and its stages
11. Compare and contrast the target cells and effects of GnRH, FSH, LH, activin, and inhibin
12. Summarize the functions of estrogen and progesterone
13. Diagram and summarize the female reproductive cycles (ovarian, uterine, and vaginal)
14. Apply hormonal and enzymatic abnormalities to female reproductive pathophysiology
15. Explain the basis for hormonal birth control
16. Understand menopause and relate to its effects on female anatomy and physiology
**Note:** The instructor and Carroll University reserve the right to modify, amend, or change the syllabus (course requirements, grading policy, etc.) as the curriculum and Physician Assistant Program require(s).

**Course Schedule:** [All readings are from Guyton]

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<thead>
<tr>
<th>Dates</th>
<th>Topic</th>
<th>Readings</th>
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<tr>
<td>June 1</td>
<td>Introduction &amp; Cells; Membranes &amp; Transport</td>
<td>Chapters 1, 2, 4</td>
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<tr>
<td>June 5</td>
<td>Nervous System (Part I)</td>
<td>Chapters 5, 45</td>
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<td>June 8</td>
<td>Nervous System (Part II)</td>
<td>Chapters 5, 45</td>
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<td>Sensory System (General Senses)</td>
<td>Chapters 49-53</td>
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<td>June 12</td>
<td>Sensory System (General &amp; Special Senses)</td>
<td>Chapters 49-53</td>
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<td>June 15</td>
<td>Sensory System (Complete Special Senses)</td>
<td>Chapters 49-53</td>
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<td>June 19</td>
<td><strong>Exam 1 (Mon. June 19th thru NS)</strong></td>
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<td>June 22</td>
<td>Endocrine System (Part I)</td>
<td>Chapters 74-80</td>
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<td>June 26</td>
<td>Endocrine System (Part II)</td>
<td>Chapters 74-80</td>
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<td>June 29</td>
<td>Muscular System</td>
<td>Chapters 6-7</td>
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<tr>
<td>July 3</td>
<td>Muscular System (Complete)</td>
<td>Chapters 6-7</td>
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<td></td>
<td>Cardiovascular System (Part I)</td>
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<td>July 6</td>
<td>Cardiovascular System (Part II)</td>
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<td>Cardiovascular System (Part II &amp; III)</td>
<td>Chapters 9-21; 37-39</td>
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<td><strong>Exam 2 (Thurs. July 13th thru Muscle)</strong></td>
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<td>July 17</td>
<td>Respiratory System (Part I)</td>
<td>Chapters 40-42</td>
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<td>Respiratory System (Part II)</td>
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<td>July 24</td>
<td>Digestive System</td>
<td>Chapters 62-65</td>
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<td>July 27</td>
<td>Renal System (Part I &amp; II)</td>
<td>Chapters 26-31</td>
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<td>July 31</td>
<td><strong>Exam 3 (Mon. July 31st thru Respiratory)</strong></td>
<td>Chapters 26-31</td>
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<td>August 3</td>
<td>Renal System (Part II &amp; III)</td>
<td>Chapters 26-31</td>
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<td><strong>Due (Aug 3)→ Pathophysiology Paper 2</strong></td>
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<td>August 7</td>
<td>Reproductive System (Male)</td>
<td>Chapters 26-31; 80</td>
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<td>August 10</td>
<td>Reproductive System (Female)</td>
<td>Chapters 80-81</td>
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<td>August 17</td>
<td><strong>Final Exam 9:00-11:00 am (Digestive, Renal, &amp; Reproductive)</strong></td>
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