MPAS 551  
Pathology/pathophysiology I

1. **Course Description**: The Pathology & Pathophysiology course series will combine lectures and student-centered learning for an in-depth exploration of this foundational science. Students will have the opportunity to reinforce and expand their knowledge-base beyond what they established as undergraduates. This course also intends to introduce motivated students to strategies for life-long learning in the basic and applied sciences. The primary focus will be on solidifying content pertinent to Physician Assistant practice, but current events and/or other applied physiology may be discussed. The studies of pathophysiology in this course will be aligned in a module format to what is being studied in clinical medicine. Modules include: laboratory medicine, infectious disease, otorhinolaryngology, ophthalmology, Pulminology, allergy, immunology, dermatology, gastroenterology, and tropical medicine.

2. **Course Materials**

3. **Course Objectives**: Upon successful completion of this course, the student will be able to:
   3.1 Understand and reasonably discuss a broad range of normal human physiology with both colleagues and lay persons  
   3.2 Understand and reasonably discuss the pathophysiology of selected topics, using both cellular and holistic terms  
   3.3 Evaluate resources for exploration of topics and issues in physiology and pathophysiology  
   3.4 Efficiently formulate a strategy for researching the underlying physiology & pathophysiology for topics pertinent to PA practice  
   3.5 Demonstrate effective tactics for researching the underlying physiology & pathophysiology for topics pertinent to PA practice  
   3.6 Correctly recall or define elements of physiology & pathophysiology for topics and systems covered during this course  
   3.7 Compare and contrast physiologic data and concepts of pathophysiology  
   3.8 Collaborate with colleagues to formulate conclusions using physiologic principles  
   3.9 Objectives pertaining to specific modules:  
      3.9.1 Infectious Disease:  
         3.9.1.1 Explain how infectious agents are identified and how epidemics arise and spread.  
         3.9.1.2 Compare and contrast the following types of infectious organisms: Gram + and – bacteria, Rods and Cocci, Viruses, Viroids, and Prions.  
         3.9.1.3 Describe common lab tests used to diagnose infectious diseases.
3.9.1.4 Describe how vaccines work and differentiate those that are live and those that are not.

3.9.2 Pulmonology:
3.9.2.1 Describe the physiologic function of the pulmonary system.
3.9.2.2 Properly identify metabolic and respiratory acidosis and alkalosis when given the results of an arterial blood gas.
3.9.2.3 Diagnose restrictive and obstructive lung disease when given the results of a pulmonary function study and define the severity of the obstruction or restriction.

3.9.3 Dermatology:
3.9.3.1 Describe the anatomy and physiology of the skin.
   (Epidermis/Dermis/Hypodermis/Appendages)
3.9.3.2 Describe the differences anatomically and physiologically in the skin of the following: infants and children; adolescents; pregnant women; and older adults.
3.9.3.3 Define the following terms with regards to describing dermatologic conditions and apply each definition appropriately when presented a dermatologic condition:
   3.9.3.3.1 Primary lesion: macule; papule; plaque; patch; nodule; pustule; vesicle; bulla; wheal; cyst; tumor; telangiectasia.
   3.9.3.3.2 Secondary lesion: scale; erosion; ulcer; fissure; crust; erythema; excoriation; atrophy; scar; edema; hyperpigmentation; hypopigmentation; depigmentation; lichenification; hyperkeratosis.
   3.9.3.3.3 Distribution: symmetrical vs. asymmetrical; sun exposed areas; single or multiple; discrete; unilateral vs. bilateral; generalized; disseminated; grouped.
   3.9.3.3.4 Distinguishing characteristics: smooth; scaly; keratous; exudative; friable; crusted; warty; umbilicated; soft; normal; firm; hard; superficial vs. deep; color; well-circumscribed; poorly defined; active or raised border; round; oval; irregular; pedunculated; annular; linear; serpiginous; reticular
3.9.3.4 Describe the following special signs and tests related to dermatologic conditions: Darier sign, Auspitz sign, Nikolsky sign, Koebner phenomenon, patch test, and diascopy.
3.9.3.5 Describe the following nail problems: paronychia, ingrown nail, subungual hematoma, leukonychia, onycholysis, koilonychia, beau lines, and mucous cysts.

3.9.4 Gastroenterology:
3.9.4.1 Identify the anatomy and describe physiology of the gastrointestinal and biliary systems.
3.9.4.2 Identify risk factors, including diet, genetics, substance abuse, and systemic conditions, for GI and biliary pathology.
3.9.4.3 Differentiate conditions of the rectum, esophagus, stomach, small and large intestines, and biliary tree (liver, gallbladder, pancreas, common duct) including: dysphagia, esophageal disorders, hiatal hernia, reflux, GI bleed, gastritis, peptic ulcer disease, malabsorption syndromes, diverticulosis, diverticulitis, pancreatitis, GI neoplasms, anorectal disorders, liver disease, hepatitis, gallbladder disease, irritable bowel syndrome, inflammatory bowel disease, ulcerative colitis, and Crohn’s disease.

3.9.4.4 Explain the pathology of infections of the GI tract to include: gastroenteritis, colitis, food poisoning, and diverticulitis.

3.9.5 HEENT/Ophthalmology:
3.9.5.1 Describe and discuss the physiology of the ENT systems.
3.9.5.2 Describe and discuss the physiology of speech.
3.9.5.3 Identify the anatomy and describe the physiology of the eye.
3.9.5.4 Discuss defects in vision and refraction, and give examples of corrective options.
3.9.5.5 Identify health risk factors for ophthalmologic disorders
3.9.5.6 Discuss systemic manifestations of disease found of the eye:
   3.9.5.6.1 Hypertension
   3.9.5.6.2 Diabetes
   3.9.5.6.3 Increased intracranial pressure
   3.9.5.6.4 Thyroid disease

3.9.6 Allergy and Immunology:
3.9.6.1 Define the physiology and pathophysiology of allergic response and immunologic dysfunction.
3.9.6.2 Identify and distinguish the pathology of the different hypersensitivity reactions.
3.9.6.3 Name the diagnostic and lab tests for allergies and immunologic problems, and interpret the results which including: CBC, nasal smear, RAST test, immunoglobulins, ABO/RH typing, and HLA tissue typing.
3.9.6.4 Define and differentiate autoimmune and immunodeficiency disease.
3.9.6.5 Define the immunotherapy of environmental and drug and food allergies.

4. Student Activities and Experiences:
   4.1 Faculty guided lecture
   4.2 Independent reading assignments
   4.3 Integrated computer technology will be utilized to enhance learning.
   4.4 Independent workbook exercises

5. Assessment Techniques:
   5.1 Comprehensive final examination (35% of total grade)
   5.2 End of module exams (35% of total grade)
5.3 Workbook assignments (20% of final grade)
5.4 Full attendance and participation (10% of final grade)

6. **Course grades:** are calculated on a percentage basis. All final course grade percentages are rounded to the nearest integer. *(XX.50% or higher is rounded up to the next higher integer. XX.49% or less is rounded down.)* Final course grades are assigned according to the following academic standards:

<table>
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<th>Didactic &amp; Research Courses</th>
<th>Percent Grade</th>
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<tr>
<td></td>
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<td></td>
<td>70-79</td>
<td>C</td>
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<tr>
<td></td>
<td>Less than 70</td>
<td>F</td>
</tr>
</tbody>
</table>

An “I” may be temporarily awarded to individuals who fail to complete course requirements within the defined time. A final grade of “F” in any PA course is a non-passing grade and results in automatic and immediate dismissal from the PA Program.

7. **Tentative Schedule:**

<table>
<thead>
<tr>
<th>Module</th>
<th>Lecture topics</th>
<th>Dates</th>
<th>Lecture and case study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intro to health care</td>
<td>Intro to health care and laboratory</td>
<td>Jan 15-21</td>
<td>Introduction to human pathophysiology</td>
</tr>
<tr>
<td>Infectious Disease</td>
<td>and laboratory medicine</td>
<td></td>
<td></td>
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<tr>
<td>Otorhinolaryngology</td>
<td>Jan 22-Feb 5</td>
<td></td>
<td>The Pathology and physiology of Infectious Disease</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>Feb 8-17</td>
<td></td>
<td>The Pathology and physiology of Otorhinolaryngology</td>
</tr>
<tr>
<td>Pulminology</td>
<td>Feb 18-25</td>
<td></td>
<td>The Pathology and physiology of Ophthalmology</td>
</tr>
<tr>
<td>Allergy and Immunology</td>
<td>Feb26-March10</td>
<td></td>
<td>The Pathology and physiology of Pulminology</td>
</tr>
<tr>
<td>Dermatology</td>
<td>March 11-26</td>
<td></td>
<td>The Pathology and physiology of Allergy and Immunology</td>
</tr>
<tr>
<td>Genetics</td>
<td>March 29-April 7</td>
<td></td>
<td>The Pathology and physiology of Dermatology</td>
</tr>
<tr>
<td>Gastroenterology</td>
<td>April 8-9</td>
<td></td>
<td>The Pathology and physiology of Genetics</td>
</tr>
<tr>
<td></td>
<td>April 10-22</td>
<td></td>
<td>The Pathology and physiology of Gastroenterology</td>
</tr>
<tr>
<td></td>
<td>April 30</td>
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<td>Cumulative Final</td>
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8. **Academic Honesty Policy**: At a Christian liberal arts university, committed to the pursuit of truth and understanding, any act of academic dishonesty is especially distressing and cannot be tolerated. In general, academic dishonesty involves the abuse and misuse of information or people to gain an undeserved academic advantage or evaluation. The common forms of academic dishonesty include:

8.1. **Cheating**: using deception in the taking of tests or the preparation of written work, using unauthorized materials, copying another person’s work with or without consent, or assisting another in such activities;

8.2. **Lying**: falsifying, fabricating, or forging information in either written or spoken presentations;

8.3. **Plagiarism**: using the published writings, data, interpretations of ideas of another without proper documentation

Episodes of academic dishonesty are reported to the Vice President for Academic Affairs. The potential penalty for academic dishonesty includes:

1.) a failing grade on a particular assignment
2.) a failing grade for the entire course
3.) charges against the student with the appropriate disciplinary body

9. **ADA Statement**: In accordance with Americans with Disabilities Act, any student in this class who has a documented learning disability will be provided with reasonable accommodations designed to meet his/her needs. Before any such assistance can occur, it is the responsibility of the student to see that documentation is on file with Academic Affairs. If you have documented special needs you must make them known to the instructor prior to the third week of class.

10. **Emergency Contact**: All cell phones and pagers need to remain OFF during lectures and labs, Monday through Friday. If someone needs to reach you during that time, the administrative assistant for the program will take any important phone messages.
1. **Course Description:** Students will learn integrative human physiology and pathophysiology involving the cardiological, hematological, oncological, neurological, and psychological systems with an emphasis upon homeostatic mechanisms and the etiologies of disease states. Recognition of the interrelationship of function and dysfunction at the molecular, cellular and tissue levels, as well as the organ and systemic levels provides the student with the necessary foundation for MPAS 542 and 543 (Clinical Medicine II and III).

2. **Course Materials:**

3. **Course Objectives:** Upon successful completion of this course, the student will be able to:
   3.1 Identify the normal physiology involving the systems studied.
   3.2 Analyze the relationship between normal physiology and the disruption of the homeostatic equilibrium produced by disease processes the systems studied.
   3.3 Differentiate the pathophysiology of various disease processes involving the systems studied.
   3.4 Select treatment strategies for specific disease processes involving the systems studied based upon fundamental physiological principles.
   3.5 Select appropriate diagnostic procedures specific to the organ system based upon the students understanding of the pathological basis of disease.
   3.6 Correctly recall or define elements of physiology & pathophysiology for topics and systems covered during this course
   3.7 Compare and contrast physiologic data and concepts of pathophysiology
   3.8 Collaborate with colleagues to formulate conclusions using physiologic principles
   3.9 Discuss the Pathology and physiology of shock, multiple organ failure, and burns.
   3.10 Objectives pertaining to specific modules:
      3.10.1 Hematology/oncology:
         3.10.1.1 Describe each of the following anemias with regard to etiology and pathophysiology. Catagorize each as microcytic, normocytic or macrocytic.
            3.10.1.1.1 Aplastic
            3.10.1.1.2 Vitamin B12 deficiency
            3.10.1.1.3 Folate deficiency
            3.10.1.1.4 Iron deficiency
            3.10.1.1.5 G6PD deficiency
            3.10.1.1.6 Hemolytic
            3.10.1.1.7 Sickle cell
3.10.1.8 Thalassemia
3.10.1.9 Myxedema
3.10.1.10 Myelodysplasia

3.10.1.2 Discuss and differentiate the etiology and pathology of the following:
3.10.1.2.1 aplastic anemia
3.10.1.2.2 neutrophilia (primary and secondary)
3.10.1.2.3 neutropenia
3.10.1.2.4 eosinophilia
3.10.1.2.5 lymphocytosis

3.10.1.3 Describe and discuss the pathophysiology of the following disorders:
polycythemia, lymphadenopathy, lymphocytic leukemia, myelogenous leukemia,
lymphomas, multiple myeloma, and Hodgkin’s disease.
3.10.1.4 Describe and discuss the pathophysiology of the following disorders of
hemostasis: idiopathic thrombocytopenic purpura, thrombotic thrombocytopenic
purpura, coagulopathies, factor VIII disorders, factor IX disorders, factor XI
disorders, thrombocytopenia, Von Willebrand’s disease, vitamin K deficiency,
disseminated intravascular coagulation, thrombocytosis, thrombosis, HEELP
syndrome, and platelet disorders.
3.10.1.5 Describe and discuss the various reactions that can occur during or after
a blood transfusion.
3.10.1.6 When given the appropriate information, demonstrate the ability to
stage a cancer using the TNM method.
3.10.1.7 Demonstrate understanding of how tumor size and tumor markers are
used to evaluate the effectiveness of treatment.

3.10.2 Geriatrics:
3.10.2.1 Recognize those physiologic and anatomic changes that occur in the
aging process, being able to differentiate between those findings that are
considered normal in aging and those that are pathologic.

3.10.3 Psychology:
3.10.3.1 Discuss and describe the pathophysiologic components of common
psychiatric illnesses.

3.10.4 Neurology:
3.10.4.1 Identify the anatomy and describe the physiological mechanisms of the
neurological system.
3.10.4.2 Describe and discuss the pathology of common neurologic problems
including: multiple sclerosis, neuropathies, spinal disc disease, CNS trauma,
Alzheimer’s disease, cerebral palsy, Bell’s palsy, peripheral neuropathy, Guillain-
Barre syndrome, myasthenia gravis, cluster headache, migraine headache, tension
headache, encephalitis, meningitis, essential tremor, Huntington’s disease,
Parkinson’s disease, seizure disorders, muscular dystrophy, amyotrophic lateral
sclerosis, and space occupying lesions.

3.10.5 Cardiology:
3.10.5.1 Identify the anatomy of the cardiovascular system; describe the physiology and dynamics of pressure, electrical impulse pathways, and correlate this knowledge with clinical conditions.

3.10.5.2 Evaluate and trace through the cardiac cycle, cardiac murmurs of aortic stenosis/regurgitation, pulmonic stenosis/regurgitation, mitral stenosis/regurgitation, tricuspid stenosis/regurgitation, atrial septal defect, ventricular septal defect, and aortic coarctation, and describe the course, hemodynamic effect and typical clinical findings of these conditions.

3.10.5.3 Explain the pathophysiology and clinical presentations of the following conditions: Atherosclerosis, acute myocardial infarction, angina, atrial fibrillation, atrial flutter, atrioventricular block, bundle branch block, premature supraventricular tachycardia, premature beats, ventricular tachycardia, ventricular fibrillation, hypertension, hyperlipidemic disorders, congestive heart failure, cor pulmonale, cardiomyopathies, myocarditis, pericarditis, aneurysms, dissections of the aorta, carotid artery stenosis, endocarditis, rheumatic fever, peripheral vascular disease, intermittent claudication, deep venous thrombosis, chronic venous stasis, varicosities, phlebitis, pulmonary hypertension, congenital heart disorders, pulmonary stenosis, coarctation of the aorta, atrial septal defect, patent foramen ovale, ventricular septal defect, tetralogy of Fallot, and patent ductus arteriosus.

4. **Student Activities and Experiences:**
   4.1 Faculty guided lecture
   4.5 Independent reading assignments
   4.6 Independent workbook exercises
   4.7 Integrated computer technology will be utilized to enhance learning.

5. **Assessment Techniques:**
   5.5 Comprehensive final examination (35% of total grade)
   5.6 End of module exams (35% of total grade)
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<td>student has exceeded expectations</td>
</tr>
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<tr>
<td>Cardiology</td>
<td>May 10-June 4</td>
<td>The Pathology and physiology of cardiology</td>
</tr>
<tr>
<td>Hematology</td>
<td>June 7-15</td>
<td>The Pathology and physiology of hematology</td>
</tr>
<tr>
<td>Oncology</td>
<td>June 16-24</td>
<td>The Pathology and physiology of oncology</td>
</tr>
<tr>
<td>Neurology</td>
<td>June 25-July 9</td>
<td>The Pathology and physiology of Neurology</td>
</tr>
<tr>
<td>Psychology</td>
<td>July 12-24</td>
<td>The Pathology and physiology of Psychiatry</td>
</tr>
<tr>
<td>CAM and Occupational Medicine</td>
<td>July 25-26</td>
<td>The Pathology and physiology of Shock</td>
</tr>
<tr>
<td>Geriatrics</td>
<td>July 27-Aug 6</td>
<td>The Pathology and physiology of multiple organ failure</td>
</tr>
<tr>
<td>Rehabilitation and end of life care</td>
<td>August 9-11</td>
<td>The Pathology and physiology of burns</td>
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<td>August 13</td>
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MPAS 553
Pathology/Pathophysiology III

1. **Course Description:** Students will learn integrative human physiology and pathophysiology involving the endocrine, nephrological, urological, gynecological, rheumatological, and orthopedic systems with an emphasis upon homeostatic mechanisms and the etiologies of disease states.

2. **Course Materials:**

3. **Course Objectives:** Upon successful completion of this course, the student will be able to:
   3.1 Understand and reasonably discuss a broad range of normal human physiology with both colleagues and lay persons
   3.2 Understand and reasonably discuss the pathophysiology of selected topics, using both cellular and holistic terms
   3.3 Evaluate resources for exploration of topics and issues in physiology and pathophysiology
   3.4 Efficiently formulate a strategy for researching the underlying physiology & pathophysiology for topics pertinent to PA practice
   3.5 Demonstrate effective tactics for researching the underlying physiology & pathophysiology for topics pertinent to PA practice
   3.6 Correctly recall or define elements of physiology & pathophysiology for topics and systems covered during this course
   3.7 Compare and contrast physiologic data and concepts of pathophysiology
   3.8 Collaborate with colleagues to formulate conclusions using physiologic principles
   3.9 Objectives pertaining to specific modules:
      3.9.1 Endocrine:
         3.9.1.1 Identify the endocrine anatomy and describe the physiological mechanisms of the endocrine system.
         3.9.1.2 Differentiate and define the pathology of conditions of the hypothalamus and pituitary gland, thyroid gland, thymus gland, ovaries, testes, parathyroid gland, bones and adrenal cortex.
      3.9.2 Nephrology:
         3.9.2.1 Identify the anatomy of the nephron and gross renal structures.
         3.9.2.2 Describe the physiology of the kidney pertaining to the organ’s role in maintaining acid-base balance, fluid and electrolyte maintenance, and hemodynamic status.
         3.9.2.3 Differentiate between nephritic and nephrotic syndromes.
3.9.2.4 Explain the pathophysiology and clinical presentations of the following conditions: acid-base disorders, fluid and electrolyte disturbances, renal failure, interstitial nephritis, glomerulonephritis, chronic renal insufficiency, glomerulonephropathies, tubulointerstitial disease, cystic diseases of the kidney, nephrolithiasis, and renal artery stenosis.

3.9.3 Urology and men’s health:

3.9.3.1 Identify and describe the clinically relevant anatomy most pertinent to male sexual functioning.

3.9.3.2 Describe and relate the continuum of normal sexual development in males.

3.9.3.3 Describe normal sexual function including the sexual response cycle, distinguishing gender differences, and the changes that take place through the lifespan.

3.9.3.4 Describe and explain the pathophysiology of chromosomal and hormonal disorders of sexual differentiation including: Turner syndrome, Klinefelter syndrome, androgen insensitivity syndrome, and congenital adrenal hyperplasia.

3.9.3.5 Identify and explain the pathophysiology for the following disorders of sexual function: Inhibited sexual desire, arousal phase disorders, orgasmic phase disorders, priapism, phimosis, paraphimosis, hypospadias, and epispadias.

3.9.3.6 Describe the anatomy and physiology of the male genito-urinary tract.

3.9.3.7 Describe and interpret laboratory tests to include: UA, dipstick and microscopic, PSA, Urethral swab for STD, Tests for testicular cancer including follow-up tests—FSH, LH, HCG, and Semen analysis.

3.9.3.8 Identify and describe the pathophysiology of the following: UTI, cystitis, prostatitis, incontinence, BPH, urinary outlet obstruction, epididymitis, orchitis, testicular torsion, penile disorders, hernia, and hydrocele.

3.9.3.9 Define erectile dysfunction and sexual dysfunction of males and describe the appropriate evaluation and treatment.

3.9.3.10 Describe the pathophysiology of various types of genito-urinary tumors including: Prostate cancer, penile cancer, testicular tumors, and bladder tumors.

3.9.4 OBGYN and women’s health:

3.9.4.1 Identify and describe the clinically relevant anatomy pertinent to female sexual functioning.

3.9.4.2 Describe and relate the continuum of normal sexual development in females.
3.9.4.3 Describe normal sexual function including the sexual response cycle, distinguishing gender differences, and the changes that take place through the lifespan.

3.9.4.4 Describe and explain the pathophysiology of chromosomal and hormonal disorders of sexual differentiation including: Turner syndrome, Klinefelter syndrome, androgen insensitivity syndrome, and congenital adrenal hyperplasia.

3.9.4.5 Identify and explain the pathophysiology for the following disorders of sexual function: Inhibited sexual desire, arousal phase disorders, orgasmic phase disorders, dyspareunia, and vaginismus.

3.9.4.6 Recall the anatomy and physiology unique to the female genitourinary tract.

3.9.4.7 Recall from Infectious Disease module pathophysiology of the sexually transmitted diseases and discuss prevention.

3.9.4.8 Explain the pathology and physiology of the following:
   3.9.4.8.1 Menstrual disorders: amenorrhea, oligomenorrhea, menorrhagia, metrorrhagia, dysmenorrheal, dysfunctional uterine bleeding, premenstrual syndrome and premenstrual dysphoric disorder.
   3.9.4.8.2 Breast disorders: Benign breast diseases (cysts/fibroadenoma/mastitis) and breast cancers.
   3.9.4.8.3 Menopause and perimenopausal osteoporosis

3.9.4.9 Explain the pathophysiology of diseases of the female external genital tract and vagina, to include: Sexually transmitted diseases, vaginal candidiasis, bacterial vaginosis, trichomoniasis, dermatologic problems of the vulva, malignancy, Bartholin’s cysts, and abscess.

3.9.4.10 Explain the pathophysiology of the following disorders of the uterus, fallopian tubes, and ovaries: Endometriosis, adenomyosis, endometritis, leiomyoma/fibroids, pelvic inflammatory disease, ovarian torsion, ectopic and molar pregnancy, ovarian cysts, and polycystic ovarian syndrome.

3.9.4.11 Explain healthy female fertility and explain the presentation, risk factors, physiology, and pathology of infertility.

3.9.4.12 Describe the pathophysiology of the following gynecologic cancers: Vulvar, vaginal, cervical, uterine, endometrial, and ovarian.

3.9.5 Pediatrics:
   3.9.5.1 Identify familial, genetic and systemic disorders that can cause growth abnormalities in children.
   3.9.5.2 Describe the nutritional needs of infants through adolescents.
   3.9.5.3 Discuss and contrast theories of childhood development.
3.9.5.4 Describe the pathophysiology of the common causes of childhood morbidity and mortality.
3.9.5.5 Identify the common dermatoses seen in childhood and adolescence and describe the related pathophysiology.

3.9.6 Rheumatology:
3.9.6.1 Describe and discuss various pathophysiologic processes related to rheumatological disorders.

3.9.7 Orthopedics:
3.9.7.1 Describe and identify the anatomy and physiology of the human musculoskeletal system.
3.9.7.2 Describe and recognize the pathophysiology of common orthopedic disorders including: plantar fasciitis, fractures, dislocations, sprains, strains, tendonitis, patellofemoral syndrome, bursitis, Osgood-Schlatter disease, ligament injuries, meniscal injury, slipped capital femoral epiphysis, avascular necrosis, low back pain, scoliosis, torticollis, spondylolisthesis, herniated nucleus pulposis, cauda equine syndrome, spinal stenosis, rotator cuff injuries, Impingement syndromes, acromioclavicular separation, radial head subluxation, epicondylitis, carpal tunnel syndrome, ganglion cyst, Dupuytren’s syndrome, DeQuervain’s disease, trigger finger, mallet finger, and Infectious disorders (septic joint, osteomyelitis, paronychia, felon, tenosynovitis).

4. **Student Activities and Experiences:**
   4.1 Faculty guided lecture
   4.2 Independent reading assignments
   4.3 Independent workbook exercises
   4.4 Integrated computer technology will be utilized to enhance learning.

5. **Assessment Techniques:**
   5.9 Comprehensive final examination (35% of total grade)
   5.10 End of module exams (35% of total grade)
   5.11 Workbook assignments (20% of final grade)
   5.12 Full attendance and participation (10% of final grade)

6. **Course grades:** are calculated on a percentage basis. All final course grade percentages are rounded to the nearest integer. *(XX.50% or higher is rounded up to the next higher integer. XX.49% or less is rounded down.)* Final course grades are assigned according to the following academic standards:

<table>
<thead>
<tr>
<th>Didactic &amp; Research Courses</th>
<th>Percent Grade</th>
<th>Letter Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>90 – 100</td>
<td>A</td>
</tr>
<tr>
<td>student has exceeded expectations</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
An “I” may be temporarily awarded to individuals who fail to complete course requirements within the defined time. A final grade of “F” in any PA course is a non-passing grade and results in automatic and immediate dismissal from the PA Program.

7. **Tentative Schedule:**

<table>
<thead>
<tr>
<th>Module</th>
<th>Dates</th>
<th>Lecture and discussion TOPICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endocrine</td>
<td>August 25-September 10</td>
<td>The Pathology and physiology of endocrinology</td>
</tr>
<tr>
<td>Nephrology</td>
<td>September 13-27</td>
<td>The Pathology and physiology of Nephrology</td>
</tr>
<tr>
<td>Urology and men’s health</td>
<td>September 28-October 5</td>
<td>The Pathology and physiology of Urology and men’s health</td>
</tr>
<tr>
<td>GYN and women’s health</td>
<td>October 5-13</td>
<td>The Pathology and physiology of GYN and women’s health</td>
</tr>
<tr>
<td>OB</td>
<td>October 18-26</td>
<td>The Pathology and physiology of obstetrics</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>October 27-November 10</td>
<td>The Pathology and physiology of Pediatrics</td>
</tr>
<tr>
<td>Rheumatology</td>
<td>November 15-23</td>
<td>The Pathology and physiology of the musculoskeletal system I</td>
</tr>
<tr>
<td>Orthopedics</td>
<td>November 29-December 8</td>
<td>The Pathology and physiology of the musculoskeletal system II</td>
</tr>
</tbody>
</table>

8. **Academic Honesty Policy:** At a Christian liberal arts university, committed to the pursuit of truth and understanding, any act of academic dishonesty is especially distressing and cannot be tolerated. In general, academic dishonesty involves the abuse and misuse of information or people to gain an undeserved academic advantage or evaluation. The common forms of academic dishonesty include:

- **Cheating:** using deception in the taking of tests or the preparation of written work, using unauthorized materials, copying another person’s work with or without consent, or assisting another in such activities.
- **Lying:** falsifying fabricating, or forging information in either written or spoken presentations.
- **Plagiarism:** using the published writings, data, interpretations of ideas of another without proper documentation.
Episodes of academic dishonesty are reported to the Vice President for Academic Affairs. The potential penalty for academic dishonesty includes:
1.) A failing grade on a particular assignment
2.) A failing grade for the entire course
3.) Charges against the student with the appropriate disciplinary body

9. **ADA Statement:** In accordance with Americans with Disabilities Act, any student in this class who has a documented learning disability will be provided with treasonable accommodations designed to meet his/her needs. Before any such assistance can occur, it is the responsibility of the student to see that documentation is on file with Academic Affairs. If you have documented special needs you must make them known to the instructor prior to the third week of class.

10. **Emergency Contact:** All cell phones and pagers need to remain OFF during lectures and labs, Monday through Friday. If someone needs to reach you during that time, the administrative assistant for the program will take any important phone messages.