ALL INFORMATION IN THIS SYLLABUS IS SUBJECT TO THE WRITTEN POLICIES AND PROCEDURES OF THE SCHOOL OF NURSING, STEPHEN F. AUSTIN STATE UNIVERSITY, NACOGDOCHES, TEXAS.

IN THE CASE OF COMMISSION, OMISSION, AMBIGUITY, VAGUENESS, OR CONFLICT, THE POLICIES AND PROCEDURES OF THE SCHOOL OF NURSING SHALL CONTROL.

EACH STUDENT SHALL BE RESPONSIBLE FOR ACTUAL AND/OR CONSTRUCTIVE KNOWLEDGE OF THE POLICIES AND PROCEDURES OF THE SCHOOL OF NURSING AND FOR COMPLIANCE THEREWITH.

EACH STUDENT IS RESPONSIBLE FOR ALL INFORMATION IN THIS SYLLABUS.

This syllabus is provided for informational purposes only.
Faculty Contact Information

Brightspace is the primary form of communication for this course; use the SFA email address only if Brightspace is unavailable.

Name: Anne Collier, MSN, RNC-OB
Department: Nursing
Email: Primary form of communication: through Brightspace course
If Brightspace is unavailable: anne.collier@sfasu.edu
Phone: 936-468-7708
Office: Room 113 (Annex-top of hill)
Office Hours: Please email for an appointment.

Monday 1:00-3:00 pm
Tuesday 1:00-3:00 pm
Wednesday 1:00-3:00 pm
Thursdays 1:00-3:00 pm
Additional times available upon request.

Class Meeting Time and Place
3304.001 Mondays and Wednesdays 9:00 – 10:30
3304.002 Mondays and Wednesdays 10:30 – 12:00
3304.003 Tuesdays and Thursdays 9:00 – 10:30
3304.004 Tuesdays and Thursdays 10:30 – 12:00
Room 111/113 All Sections - unless otherwise stated on course calendar.

Textbooks and Materials (Required)
Only available with packaged student resources through the following:
Barnes and Noble Campus Bookstore: Norris, CoursePoint Enhanced for Porth’s Essentials of Pathophysiology, ISBN: 5e – 978 19751 28920
Lippincott direct: https://lippincottdirect.lww.com/NursingEducation-StephenFAustinStateUniversity-Fall2021

Unabridged Course Description
This course establishes an initial foundation for the pathophysiologica aspects of evidence-based nursing. This course will apply basic concepts from core courses, anatomy and physiology, chemistry and microbiology to pathophysiological alterations.

Number of Credit Hours
3 credit hours (3 hours didactic). This course typically meets twice a week in 1.5 hours segments for 15 weeks and has an additional final week. Students have significant weekly reading assignments and are required to take major exams and a comprehensive final examination. The didactic preparation and activities average a minimum of 9 hours a week outside of classroom hours.

Course Prerequisites and Co-requisites
Prerequisites: BIO 238 and 238
Co-requisites: BIO 308 or BIO 309
Program Learning Outcomes
The graduate will:
1. Apply knowledge of the physical, social, and behavioral sciences in the provision of
   nursing care based on theory and evidence-based practice.
2. Deliver nursing care within established legal and ethical parameters in collaboration with
   clients and members of the interdisciplinary health care team.
3. Provide holistic nursing care to clients while respecting individual and cultural diversity.
4. Demonstrate effective leadership that fosters independent thinking, use of informatics,
   and collaborative communication in the management of nursing care.
5. Assure responsibility and accountability for quality improvement and delivery of safe and
   effective nursing care.
6. Serve as an advocate for clients and for the profession of nursing.
7. Value continuing competence, growth, and development in the profession of nursing.

General Education Core Curriculum Objectives/Outcomes
None

Student Learning Outcomes
The student will:
1. Relate previously acquired concepts and principles of the arts, sciences, and humanities
   as foundational content for an understanding of pathophysiological alterations.
2. Describe moral, ethical, economic, political and legal issues involved in
   pathophysiological alterations.
3. Explain how holistic, socio-economic, spiritual, and ethno-cultural characteristics of a
   client affect pathophysiological alterations.
4. Introduce critical thinking concepts related to the effects of pathophysiological alterations
   on the complete body system.
5. Define biological, chemical and medical terms used in nursing practice.

Course Requirements
Exam 1  20%
Exam 2  20%
Exam 3  20%
Exam 4  20%
Final Exam 20%
Total 100%

Grading Policy:
A = 90 - 100%
B = 80 - 89%
C = 70 - 79%
D = 60 - 69%
F = Below 60%

Policy 1.7 for all courses:
1. Rounding is confined to the final course grade.
2. Grades on individual exams, assignments, quizzes, and projects are recorded in the
   gradebook (Brightspace) in their original form without rounding.
3. Final course grades are rounded to the closest whole number using the 0.5 math rule and using one decimal point to the right of the whole number. If the final course grade is not a whole number, the following rounding rules apply:
   a. If the decimal attached to a whole number is 0.5 or greater, then round up to the next whole number (equal to or greater than 85.50 = 86)
   b. If the decimal attached to a whole number is less than 0.5, then round down to the previous whole number (equal to or less than 85.49 = 85).
4. Nursing students must have a minimum grade of “C” in this course to progress.
   http://www.sfasu.edu/academics/colleges/sciences-math/nursing/student-resources/nursing-policies

Exams
Composed of 50 questions (multiple formats). All tests will be computerized and taken in room 115 of the DeWitt School of Nursing. If computerized testing is not feasible, a paper and pencil test may be substituted. Students will be able to review any incorrect questions and rationales at the conclusion of the test. Unexcused absences from exams will not be made up. Please email before exams to make arrangements for an excused absence or tardy. Students arriving late will not be allowed to begin the exam if any student has left the testing room. Students that begin the exam late will complete the exam with only the remaining time available. No time extensions will be given. Faculty reserve the right to substitute alternate exam format for make-up exams. Students are responsible for all lectures and reading assignments.

Testing Expectations
1. All belongings must be left at the front of the room. Please turn off cell phones before placing them in at the front of the room.
2. No hats, caps, hoodies, drinks/food, calculators, sunglasses, electronic devices (including smart watches), note cards/paper are allowed.
3. Students will be allowed to bring a pen/pencil and/or earplugs to their desk. A scratch piece of paper will be provided.
4. Faculty have the right to assign student seats at any time.
5. Students should not magnify the font on the computer screen.
6. Students needing academic accommodations should have prior arrangements with Disability Services. Students awarded testing accommodations must schedule all exams to be taken at Disability Services.
7. During the exam, faculty will only answer questions regarding technical issues. No content questions will be answered.
8. After leaving the exam, please be courteous of those still taking the exam. Noise in the hallway outside of the exam room should be minimal.

Classroom attendance
Students are adult learners. Therefore, it is up to the student to make the decision to attend class or not. However, we recommend that students attend class regularly. Students are responsible for all materials assigned and/or presented in each class, any information presented by your classmates, and all announcements (verbal and email/Brightspace). Active and informed participation in classroom discussion is expected. Talking among students during lecture will not be tolerated, as it is disruptive to other students trying to learn.

Brightspace
Students must have the required computer access and programs to support the on-line course through SFASU Brightspace. To access Brightspace, visit http://d2l.sfasu.edu, and log in using
your mySFA username and password. Google Chrome or Mozilla Firefox are the recommended web browsers. Internet Explorer is no longer supported.

To learn more about Brightspace, visit SFA ONLINE at http://www.sfaonline.info/ and https://d2l.sfasu.edu/d2l/home. Students are responsible for the ability to use Brightspace. For assistance with technical issues and Brightspace proficiency, contact student support in the Center for Teaching and Learning (CTL) at d2l@sfasu.edu or call 936-468-1919. For general computer support (not related to Brightspace), contact Information Technology Services at 936-468-HELP (4357) or at helpdesk@sfasu.edu.

Academic Integrity (A-9.1)
Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy of penalties for cheating and plagiarism.

Definition of Academic Dishonesty
Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to held another is an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one’s own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from a internet source or another source; and (3) incorporating the words or ideas of an author into one’s paper without giving the author due credit. Please read the complete policy at http://www.sfasu.edu/policies/4.1-student-academic-dishonesty.pdf.

Self-Plagiarism
As a student, self-plagiarism is the presentation of your own previously completed work as an original and is considered unethical (APA, 2021). In specific circumstances, students may wish to duplicate their written work; however, appropriate notation of previous work is required. Normally, if one is repeating a course in the nursing program and the student previously successfully completed the assignment, but is required to complete the assignment again as part of the course work, the vast majority of the assignment should constitute new work of the student. If the student needs to add a small segment of the work into any assignment, it should be noted in the new document. For example, "As discussed in the Spring 2021 assignment XYZ, COVID-19 vaccinations are essential for promoting public health (Name, 2021)." This clearly identifies the student's intent to point the reader to the previous document.

References

Withheld Grades Course Grades Policy (5.5)
At the discretion of the instructor of record and with the approval of the academic unit head, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F,
except as allowed through policy [i.e., Active Military Service (6.14)]. If students register for the same course in future semesters, the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average. The circumstances precipitating the request must have occurred after the last day in which a student could withdraw from a course. Students requesting a WH must be passing the course with a minimum projected grade of C.

**Students with Disabilities**

To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004/ 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aides to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to [http://www.sfasu.edu/disabilityservices/](http://www.sfasu.edu/disabilityservices/). All students who have obtained testing accommodations must take all course exams at the Office of Disability Services.

**Acceptable Student Behavior**

Classroom behavior should not interfere with the instructor’s ability to conduct the class or the ability of other students to learn from the instructional program (see the Student Conduct Code, policy D – 34.1). Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic or other penalties. This prohibition applies to all instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate/inappropriate in the classroom. Students who do not attend class regularly or who perform poorly on class projects/exams may be referred to the Early Alert Program. This program provides students with recommendations for resources or other assistance that is available to help SFA students succeed.

**Technology Requirements**

All students are required to have access to a laptop or desktop computer for academic and testing purposes. You may view the complete list of technical requirements below for Windows and Mac computers. We do not currently support mobile devices for Examsoft or HESI exams (iPads, Androids, etc). We do not support any computer systems other than Windows or Mac (no Chromebooks, Linux devices, etc). For questions regarding laptop hardware or software, please contact The SFA Help Desk at [https://help.sfasu.edu/TDClient/2027/Portal/Home/](https://help.sfasu.edu/TDClient/2027/Portal/Home/) or 936-468-HELP.

At all times, the computer should be capable of running the software below or contain the necessary hardware listed. It is the responsibility of the student to ensure that his/her computer has the required software installed upon admission, and it is updated throughout his/her time as a student.

Upon admission, students will attend an orientation session. The orientation for each course provides instructions on how to access each of the software programs used in the DeWitt School of Nursing program.

**Technology Requirements Mac Laptops/Desktops**

- Operating System – OS 10.14 Mojave (or newer)
- Hard Drive – 250 GB hard drive or solid state drive
- RAM – 8 GB
• Battery Life – Minimum of 6 hours required (8 hours recommended).
• High Speed Internet Connection – We require a minimum connection speed of 20 Mbps.
• Safari Browser (free)
• Mozilla Firefox Browser (free)
• Chrome Browser (free)
• Microsoft Office 365 – Is provided to you through your My SFA account. Your Microsoft Office 365 can be installed on up to 5 additional devices.
• SFASU Duo Authentication – You will be required to verify your identity using dual authentication on a mobile device.
• SFASU Jacks Email – You will be required to read your SFASU Jacks email. It is recommended that you access your account daily and connect to a mobile device so you never miss any critical announcements.
• Examsoft Examplify – Software will be provided upon admission. All testing is completed using this software platform.
• Adobe Reader (free)
• Adobe Flash Player (free)
• Anti-Virus Solution – We support Sophos for MAC (free version). There is also a paid version, but this in not required or necessary. We only support Sophos at exams. If you choose to use another anti-virus solution and encounter problems, you will have to contact the vendor or general helpdesk for support.
• Scanning Capabilities – You may use a mobile app (such as Turbo Scan) or visit a store which provides scanning services (such as Fed Ex Office).
• Webcam
• Computer Microphone
• Computer Headset and/or Ear Buds

Technology Requirements Windows Laptops/Desktops
- Operating System – Windows 10. We do not support 7 or 8.
- Processor - Intel Core 2 Duo, i3,i5 or i7 processor
- Hard Drive – 250 GB hard drive or solid state drive
- RAM – 8 GB
- Battery Life – Minimum of 6 hours required (8 hours recommended).
- High Speed Internet Connection – We require a minimum connection speed of 20 Mbps.
- Internet Explorer Browser (free)
- Mozilla Firefox Browser (free)
- Chrome Browser (free)
- Edge Browser (for Windows 10 users only) free
- Microsoft Office 365 – Is provided to you through your My SFA account. Your Microsoft Office 365 can be installed on up to 5 additional devices.
- SFASU Duo Authentication – You will be required to verify your identity using dual authentication on a mobile device.
- SFASU Jacks Email – You will be required to read your SFASU Jacks email. It is recommended that you access your account daily and connect to a mobile device so you never miss any critical announcements.
- Examsoft Examplify – Software will be provided upon admission. All testing is completed using this software platform.
- Adobe Reader (free)
- Adobe Flash Player (free)
- Anti-Virus Solution – We only support Windows Defender (Windows 10). Before testing, disable any other anti-virus programs that you may have other than Windows Defender.
We do not provide support for any antivirus solution with exams other than Windows Defender. If you choose to use another anti-virus solution and encounter problems, you will have to contact the vendor or general helpdesk for support.

- Scanning Capabilities – You may use a mobile app (such as Turbo Scan) or visit a store, which provides scanning services (such as Fed Ex Office).
- Webcam
- Computer Microphone
- Computer Headset and/or Ear Buds

**Electronic Devices**

Computers, notebooks, or electronic tablets may be used, preferably in the back rows of the classroom. Cell phones may be used for class activities only. Disruptive use of cell phones will not be tolerated.

**Mental Health and Wellness**

SFASU values students’ mental health and the role it plays in academic and overall student success. SFA provides a variety of resources to support student's mental health and wellness. Many of these resources are free, and all of them are confidential.

On-campus Resources:
SFASU Counseling Services
[www.sfasu.edu/counselingservices](http://www.sfasu.edu/counselingservices)
3rd Floor Rusk Building
936-468-2401

SFASU Human Services Counseling Clinic
[www.sfasu.edu/humanservices/139.asp](http://www.sfasu.edu/humanservices/139.asp)
Human Services Room 202
936-468-1041

Crisis Resources:
Burke 24-hour crisis line 1(800) 392-8343
Suicide Prevention Lifeline 1(800) 273-TALK (8255)
Crisis Text Line: Text HELLO to 741-741
Unit Objectives

UNIT I
Concepts of Health and Disease; Cellular Adaptation, Injury, and Death; Disorders of Fluid, Electrolyte, and Acid-Base Balance; Infection, Inflammation and Immunity

Concepts of Health and Disease
1. Describe the process of disease including etiology, pathogenesis, morphologic changes, clinical manifestations, diagnosis, and clinical course.
2. Compare the meaning of the terms incidence, prevalence, morbidity, and mortality as they relate to principles of epidemiology.
3. Explain determination of risk factors, natural history of a disease, and the three levels of disease prevention.

Cellular Adaptation, Injury, and Death
1. Describe the cellular changes that occur with atrophy, hypertrophy, hyperplasia, dysplasia, and metaplasia and state general conditions under which the changes occur.
2. Discuss the causes, mechanisms, and manifestations of cell injury and death.

Disorders of Fluid, Electrolyte, and Acid-Base Balance
1. Explain fluid distribution and movement in the body.
2. State the functions and physiologic mechanisms controlling body water levels and sodium concentration, including the effective circulating volume, sympathetic nervous system, renin-angiotensin-aldosterone system, and antidiuretic hormone.
3. Compare the etiology, pathology, and clinical manifestations of diabetes insipidus and the syndrome of inappropriate antidiuretic hormone.
4. Discuss the etiology and clinical manifestations of disorders of sodium and water balance.
5. Describe and compare disorders of potassium and calcium.
6. Describe the intracellular and extracellular mechanisms for buffering changes in body pH.
7. Compare and contrast acid-base disorders.

Inflammation and Immunity
1. Explain the process of inflammation.
2. Differentiate tissue regeneration from fibrous tissue repair.
3. Trace the wound-healing process through the inflammatory, proliferative, and remodeling phases.
4. Explain factors that interfere with the wound-healing process.
5. Compare and contrast the innate and adaptive immune response including the role of the cellular components and chemical mediators.
6. Describe the differences between active and passive immunity.
7. Identify the differences between primary and secondary immunodeficiency disorders.
8. Compare and contrast the pathology and clinical manifestations of immunodeficiency disorders.
9. Compare and contrast the process of altering immune function associated with hypersensitivity and autoimmunity.

UNIT II
Stress and Adaptation; Disorders of Endocrine Function; Disorders of Gastrointestinal Function; Disorders of Musculoskeletal Function
Stress and Adaptation
1. Describe the physiologic and psychological adaptations involved in the maintenance of homeostasis.
2. Explain the stress responses of the autonomic nervous system, the endocrine system, the immune system and the musculoskeletal system.
3. Discuss adaptation to stress and the factors affecting the ability to adapt.
4. Discuss disorders of the stress response: effects of acute vs. chronic stress and posttraumatic stress disorder.

Disorders of Endocrine Function
1. Compare and contrast pituitary and growth disorder including etiology and clinical manifestations
2. Compare and contrast thyroid disorders including etiology, pathogenesis, and clinical manifestations.
3. Compare and contrast disorders of the adrenal cortical function including etiology, pathogenesis, and clinical manifestations.
4. Discuss the similarities and differences in type I and type II diabetes mellitus including etiology, pathogenesis, and clinical manifestations.
5. Differentiate among common acute and chronic complications of diabetes mellitus including etiology, pathogenesis, and clinical manifestations.

Disorders of Gastrointestinal Function
1. Describe and compare disorders of the esophagus including etiology, pathogenesis, and clinical manifestations.
2. Describe and compare disorders of the stomach including etiology, pathogenesis, and clinical manifestations.
3. Describe and compare disorders of the small and large intestines including etiology, pathogenesis, and clinical manifestations.
4. Compare the etiology, pathogenesis, and clinical manifestations of hepatitis A, B, C, D, and E.
5. Describe the physiologic basis for portal hypertension and relate it to the development of ascites, esophageal varices, and splenomegaly.
6. Explain how alterations in liver function lead to the clinical manifestations seen in liver failure.
7. Describe disorders of the gallbladder and exocrine pancreas including etiology, pathogenesis, and clinical manifestations.

Disorders of Musculoskeletal Function
1. Compare the etiology, clinical manifestations, and healing process of common injuries and trauma of musculoskeletal structures.
2. Discuss the etiology, pathogenesis, and clinical manifestations related to complications of fractures.
3. Explain the etiology, pathogenesis, and clinical manifestations related to osteomyelitis.
4. Compare and contrast metabolic bone disorders including risk factors, etiology, pathogenesis, and clinical manifestations.
5. Compare and contrast inflammatory joint disorders including etiology, pathogenesis, and clinical manifestations.
Disorders of the Hematopoietic System; Disorders of Cardiovascular Function; Disorders of Respiratory Function

Disorders of the Hematopoietic System
1. Describe and compare diseases of the white blood cells including etiology, pathogenesis, and clinical manifestations.
2. Describe and compare disease of the red blood cells including etiology, pathogenesis, and clinical manifestations.
3. Describe and compare diseases of the platelets including etiology, pathogenesis, and clinical manifestations.

Disorders of Cardiovascular Function
1. Compare and contrast disorders of systemic arterial blood flow including etiology, risk factors, pathogenesis, and clinical manifestations.
2. Compare and contrast disorders of systemic venous circulation including etiology, risk factors, pathogenesis, and clinical manifestations.
3. Compare and contrast disorders of blood pressure regulation including etiology, risk factors, pathogenesis, and clinical manifestations.
4. Compare and contrast disorders of the pericardium including etiology, pathogenesis, and clinical manifestations.
5. Discuss coronary artery disease including risk factors, etiology, pathogenesis, and clinical manifestations.
6. Identify the different types of valvular dysfunction and describe the alterations in blood flow through the heart seen in each disorder; include the clinical manifestations of each disorder.
7. Discuss the pathophysiology and clinical manifestations of heart failure.
8. Compare the causes, pathophysiology, and chief characteristics of cardiogenic, hypovolemic, obstructive, and distributive shock.

Disorders of Respiratory Function
1. Describe and compare common respiratory tract infections including etiology, pathogenesis, clinical manifestations, diagnosis, and treatment.
2. Describe the etiology, pathogenesis, and clinical manifestations of physiologic effects of ventilation and diffusion disorders.
3. Describe the etiology, pathogenesis, and clinical manifestations of disorders of lung inflation.
4. Differentiate between the common types of obstructive lung diseases: asthma, chronic obstructive pulmonary disease (COPD), and cystic fibrosis.
5. Differentiate between the disorders of the pulmonary circulation including etiology, pathogenesis, and clinical manifestations.
6. Describe the etiology, pathogenesis, and clinical manifestations of acute respiratory disorders.

UNIT IV
Disorders of Renal Function; Disorders of Neural Function

Disorders of Renal Function
1. Explain the etiology, pathogenesis, and clinical manifestations of autosomal dominant polycystic kidney disease.
2. Compare the etiology, pathogenesis and clinical manifestations of various kidneys stones and other causes of urinary obstruction.

3. Describe the etiology, pathogenesis, and clinical manifestations of upper and lower urinary tract infections.

4. Describe the etiology, pathogenesis, and clinical manifestations of disorders of glomerular function.

5. Compare acute kidney injury and chronic renal disease with regard to common causes, pathophysiology, clinical manifestations, and possible complications.

6. Differentiate the prerenal, intrarenal, and postrenal forms of acute kidney injury in terms of the mechanisms of development and clinical manifestations.

7. Describe the etiology, pathogenesis, and clinical manifestations of alterations in bladder function.

Disorders of Neural Function
1. Differentiate between the occurrence, clinical manifestations, and treatment of the different types of headaches.

2. Discuss the process for the regulation of normal body temperature including the mechanisms of heat production and loss.

3. Discuss the effects of the three major alterations in body temperature: fever, hyperthermia, and hypothermia.

4. Describe the etiology, pathogenesis, and clinical manifestations of disorders of disorders of the motor function: muscle atrophy, muscular dystrophy, myasthenia gravis, Guillain-Barré syndrome, Parkinson disease, amyotrophic lateral sclerosis, and multiple sclerosis.

5. Explain the clinical manifestations and mechanisms of brain injury.

6. Summarize the effects of primary and secondary brain injuries and the different types of hematomas that can occur in the brain.

7. Discuss cerebrovascular disease including cerebral circulation, the pathologies of ischemic and hemorrhagic stroke, and clinical manifestations of stroke.

8. Discuss the causes, pathophysiology and clinical manifestations of infections of the central nervous system: meningitis and encephalitis.

9. Differentiate among the different types of seizures.

10. Describe the changes in brain tissue and clinical manifestations occurring with Alzheimer disease.

UNIT V
Disorders of Musculoskeletal Function

1. Differentiate the causes, pathogenesis, clinical manifestations, process of healing and complications of injuries and trauma of musculoskeletal structures.

2. Differentiate the causes, pathogenesis and clinical manifestations of bone infections.

3. Differentiate the risk factors, causes, pathogenesis and clinical manifestations of metabolic bone diseases.

4. Differentiate the causes, pathogenesis and clinical manifestations of rheumatic and arthritic disorders.
# NURS 3004 – Pathophysiology
## Course Calendar
### Fall 2021
Section 3304.001 and 3304.002

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*See unit content in Brightspace for specific page numbers.*
**NURS 3304 – Pathophysiology**
Course Calendar  
Fall 2021  
Section 3304.003 and 3304.004

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