NUR 3309
Applied Pathophysiology and Genomics
Summer 2021

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Office: Archer Building 318N
Office Hours: Monday through Thursday 12-1 PM, 3:30-5 PM or by appointment through collaborate

Course Information

Course Description
This course focuses on pathophysiologic alterations in human health in conjunction with genomics. This course is designed for the nursing student in mind and as such relies on not only the expansion of basic knowledge but the application of this knowledge in a clinical sense.

Course Credits
(3-0-0)

Prerequisite and Co-requisite Courses
Biology 2423 (Anatomy), Biology 2424 (Physiology); minimum of C required on all coursework for consideration.

Prerequisite Skills
Accessing internet web sites, use of ASU Library resources, and proficiency with Microsoft Word and/or PowerPoint are an expectation of the Generic BSN program. Computer requirements are further delineated in the Department of Nursing Undergraduate Student Handbook. Tutorials for ASU Library and for Blackboard are available through RamPort. The ASU Nursing Program Undergraduate Student Handbook should be reviewed before taking this course (http://www.angelo.edu/dept/nursing/handbook/index.html).

BSN Program Outcomes
Upon completion of the course of BSN study, the graduate will be prepared to:
1. Integrate nursing and related theories into the planning and/or delivery of safe nursing care.
2. Engage leadership concepts, skills, and decision-making in the planning and/or implementation of patient safety and quality improvement initiatives.
3. Identify and appraise best research evidence to improve and promote quality patient outcomes.
4. Utilize technology to access information, to evaluate patient data, and/or document care.
5. Participate in political/legislative processes to influence healthcare policy.
6. Engage in effective collaboration and communication within interdisciplinary teams.
7. Design and/or implement health promotion and disease prevention strategies for culturally competent care.
8. Demonstrate standards of professional, ethical, and legal conduct.
9. Practice and/or coordinate, at the level of the baccalaureate prepared nurse, to plan and/or implement patient centered care.

**Student Learning Outcomes**

Upon completion of the course, the student will be able to:

<table>
<thead>
<tr>
<th>Student Learning Outcome</th>
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<tbody>
<tr>
<td>By completing all course requirements, students will be able to:</td>
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<tr>
<td>1. To demonstrate knowledge in discerning normal function of organ systems compared to alterations in function.</td>
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<td>2. To demonstrate knowledge in basic cellular mechanisms that contribute to groups of diseases in order to more aptly apply this knowledge in clinical settings.</td>
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<tr>
<td>3. To demonstrate knowledge in pathogenesis, criteria for diagnosis, signs and symptoms and treatment.</td>
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<tr>
<td>4. To demonstrate knowledge in clinical conditions having a genetic etiology which effect basic alterations in cellular function.</td>
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<tr>
<td>5. Apply concepts of obtaining family history (pedigree) and assessment of risk</td>
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<tr>
<td>6. Identify and integrate information of genomic science for the management of cancer prevention and treatment</td>
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<tr>
<td>7. Understand the contribution of genetics and genomics to mental health issues</td>
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<tr>
<td>8. To understand the importance of genetic factors affecting patient treatment, plan and implement appropriate patient centered care.</td>
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</table>
Course Delivery
This course will be presented in a face to face format with opportunity for extended/remedial learning via collaborate/online. The course can be accessed through ASU’s Blackboard Learning Management System. This course will be taught using a concept approach and will focus on both individual and group work. Student centered learning will be the primary focus and will involve a number of activities including case studies, in class discussion and participation, concept map development and review. All aspects of this course is developed and is operational and accessible from blackboard (blackboard.angelo.edu).

Required Texts and Materials

Recommended Texts and Materials

Technology Requirements
To successfully complete the didactic face to face version of this course, students must be able to access blackboard as the instructor uses blackboard solely for course development, including assignments.

While exams are mostly in class, there may be an instance in which an exam might be delivered in online format. To successfully complete exams administered in this fashion, students must use lockdown browser and respondus monitor. Students must also be familiar with Blackboard collaborate as this is the means by which virtual classroom sessions for purpose of review will be held.

It is the student’s responsibility to ensure that the browser used to access course material on his/her computer is compatible with ASU’s Blackboard Learning System. The faculty reserve the right to deny additional access to course assignments lost due to compatibility issues. Students are responsible for reviewing the guidelines posted in this course regarding accessing Blackboard assignments. Problems in this area need to be discussed with faculty at the time of
occurrence, either via a phone call during posted acceptable hours for calling, or via email notification during times outside those posted for calls.

Be sure to perform a browser test. Select the “Technology Support” tab from the Blackboard homepage (http://www.blackboard.angelo.edu). Then select “Test your Browser” option located under the Browser Test header.

To participate in one of ASU’s distance education programs, you need this technology:

- A computer capable of running Windows 7 or later, or Mac OSX 10.8 or later
- The latest version of one of these web browsers: internet Explorer, Firefox, or Safari
- Microsoft Office Suite or a compatible Open Office Suite
- Adobe Acrobat Reader
- High Speed Internet Access
- Ethernet adapter cable required (wireless connections can drop during tests and Collaborate sessions)
- Webcam

**Applied Pathophysiology and Genomics**

**Topic Outline (this represents a tentative schedule and should not be taken as absolute-any change from this will be communicated)**

**Week One (June 7, 9)**

Introduction

**Chapter 6**
Reading assignment/ Genetic and Developmental Disorders

**Week Two (June 14, 16)**

**Chapter 2**
Reading assignment/ Altered Cells and Tissues

**Chapter 7**
Reading assignment/ Altered Cellular Proliferation and Differentiation
Assignment/ do case 27/located in Neafsey case study book- (Note: this case study relates to chapter 7 in our textbook)

Week Three (June 21, 23)

Chapter 3
Reading assignment/Inflammation and Tissue Repair
Assignment/ do case 7 or 17 or 26-Neafsey book- (note: these case studies relate to topics in chapter 3 of our textbook)

Exam One (chapters 1, 2, 6 and 7)

Week Four (June 28, 30)

Chapter 4
Reading assignment/ Altered Immunity
Assignment/ do case 3-Neafsey book- (note: this case study relates to topics in chapter 4 of our textbook)

Chapter 8-electrolytes section
Reading assignment/alterations in electrolyte balance-pg 197-202 plus related clinical models
Assignment/ do case 6 or 28-Neafsey book- (note: these case studies relate to topics in the electrolyte portion of chapter 8 of our textbook)

Week Five (July 5, 7)

Chapter 9-Acid Base Imbalance
Reading assignment/ chapter 9-acid base (Alterations in acid base balance)
Assignment/ do ABG assignment-in blackboard under assignments

Chapter 8-Fluids
Reading assignment/ Fluid imbalance-pg 202-209 plus related clinical models

Week Six (July 12, 14)

Chapter 18-Altered Elimination
Reading assignment/ Altered Elimination
Assignment/ do case 8 or 10 or 25-Neafsey book- (note: these case studies relate to topics in chapter 18)

Exam Two (chapters 3, 4, 5, 8-electrolytes and 9-Acid Base)

Week Seven (July 19, 21)

Chapter 13-Function and Regulation of Hormones
Reading assignment/ Altered Hormonal and Metabolic Regulation
Assignment/ review questions-in assignments tab of blackboard course

Chapter 14- Reproduction
Reading assignment/Regulation of reproduction

Week Eight (July 26, 28)

Chapter 20- Diabetes
Reading assignment/ chapter 20 Integrated Pathophysiology Concepts-Diabetes I, II)
Assignment/ question review for in class activity-in assignments tab blackboard course

Exam Three (chapter 8-fluids, chapter 18, chapter 13 and chapter 14)

Week Nine (Aug 2, 4)

Chapter 15-Ventilation
Reading assignment /Altered ventilation and diffusion
Assignment/ do case 1 or 9-Neafsey book- (note: these case studies relate to topics in Chapter 15 of our textbook)

Chapter 16-Perfusion
Reading assignment/ chapter 16 (Alterations in perfusion)
Assignment/ do case 15 or 24-Neafsey book- (note: these case studies relate to topics in chapter 16 of our textbook)

Week Ten (Aug 9, 11, 13)

Chapter 10/Cerebral palsy, multiple sclerosis, hydrocephalus, Parkinson’s and Alzheimer’s (found in chapter 19)
Chapter 12/migraine/fibromyalgia
(note: we are not covering entire chapter information for ten or twelve)

**Final Exam** (50% covers chapters 20, 15, 16, and 10, 12; remaining 50% comes from remainder of semester)
2-4 PM / August 13

**Communication**

Faculty will respond to email and/or telephone messages within 24 hours when message is delivered during working hours Monday through Friday. The faculty member will check emails/discussion boards three times a day during regular working days as well as weekend days. You may not get an immediate response but a response will be forthcoming.

All private communication will be done exclusively through your ASU email address. Check frequently for announcements and policy changes. **The faculty member reserves the right to amend due dates for scheduled assignments. These usually work in the favor of the student in terms of time. However, it is the student’s responsibility to stay on top of such notifications from the faculty member.** If applicable, in your emails to the faculty member, include the course name and section number in your subject line.

**Written communication via email:** All private communication will be done exclusively through your ASU email address. Check frequently for announcements and policy changes.

Instructor communicates exclusively through blackboard email and announcements outside of face to face classroom communication. Instructor also follows up in announcement format, to all students, reminders of due dates, assignments, etc.

**Grading**

**Evaluation and Grades**

Course grades will be dependent upon meeting the learning objectives and completing activities of the course. Evaluation of student comprehension and application of learned concepts will take the form of examinations that include both multiple choice and short answer questions.

Final grades will be recorded as earned with no rounding of scores, according to policy set forth by the Nursing department and which is contained in the Nursing Student Handbook. Extra credit work will not be allowed. The weighting of class work is as follows:
### Assessment Percent/Points of Total Grade

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Percent/Points of Total Grade</th>
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<tbody>
<tr>
<td>Daily grades and homework</td>
<td>10</td>
</tr>
<tr>
<td>Exam one, two and three*</td>
<td>60 (each 20%)</td>
</tr>
<tr>
<td>Final Exam /Comprehensive</td>
<td>30%</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
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* each of first three exams will include as part of the grade a project notebook. Details will be outlined in blackboard.

### Grading System

Course grades will be dependent upon completing course requirements and meeting the student learning outcomes.

The following grading scale is in use for this course:

- **A** = 90.00-100 points
- **B** = 80.00-89.99 points
- **C** = 70.00-79.99 points
- **D** = 60.00-69.99 points
- **F** = 0-59.99 points (Grades are not rounded up)

### Teaching Strategies and Methods

Students are expected to be “active learners.” It is a basic assumption of the instructor that students will be involved (beyond the materials and lectures presented in the course) discovering, processing, and applying the course information using peer-review journal articles, researching additional information and examples on the Internet, and discussing course material and clinical experiences with their peers.

### Assignment and Activity Descriptions

Assignments for this class include case studies.

1) These case studies are assigned to parallel the topics covered in class and affords students the opportunity to apply learnings in real life scenarios as presented by the case studies.
2) A project notebook will include individual research on special topics assigned during the didactic lecture portion of certain chapters. The focus of the research will center on genetic conditions, specifically for the purpose of creating plan of care and will include:
   a. inheritance pattern
   b. pathophysiology/related manifestations
   c. treatment
   d. genetic testing availability

3) Review/ Diabetes includes a series of questions that help student conceptually understand the complexity of Diabetes in terms of its pathophysiology and how it relates to patient management. This assignment is used to prepare in advance for classroom activity/discussion.

4) Review/Endocrine includes a series of questions designed to help student conceptually understand the regulation of hormone production, the implication of error in this regulation in terms of patient health and how to manage care.

Study Aid
Note templates can be provided to help develop skill in study process. The note templates are designed to help students in re-synthesis of learning concepts in visual constructs to aid in learning and comprehension.

**Assignment Submission**
All assignments MUST be submitted through the Assignments link in the Blackboard site. This is for grading, documenting, and archiving purposes. Issues with technology use arise from time to time. If a technology issue does occur regarding an assignment submission, email me at jacqueline.brown@angelo.edu let me know of the issue. Under no circumstance should you attempt to turn in an assignment to me via email. It will not be accepted. **Please contact the IT Service Center at (325) 942-2911 or go to your Technology Support tab to report the issue.** This lets your faculty know you completed the assignment on time and are just having problems with the online submission feature in Blackboard. Once the problem is resolved, submit your assignment through the appropriate link. This process will document the problem and establish a timeline. Be sure to keep a backup of all work.
Late Work or Missed Assignments Policy
Due dates and times for assignments are posted and made available through posted assignment documents. Failure to submit assignments on the assigned date will result in a 20-point deduction from earned grade. An additional 20 points will be deducted each subsequent day past the due date.
No papers or postings of any kind will be accepted more than one week past the assigned due date.

General Policies Related to This Course
All students are required to follow the policies and procedures presented in these documents:

- Angelo State University Student Handbook\(^1\)
- Angelo State University Catalog\(^2\)
- Undergraduate Nursing Student Handbook\(^3\)

Important University Dates
Summer 2021
August 13/ Final Exam 2-4 PM

Student Responsibility and Attendance
All students are required to follow the policies and procedures presented in the Angelo State University Undergraduate Nursing Handbook, located on the Nursing website [http://www.angelo.edu/dept/nursing/handbook/index.html](http://www.angelo.edu/dept/nursing/handbook/index.html)
All students are required to follow the policies and procedures presented in the following documents:


In order to complete this course successfully, you must participate in all course activities, including assignments, discussions in class, quizzes, exams and projects. Students are expected to engage in course activities and submit work by due dates and times.
For planning purposes, this course will probably require a minimum of 6-9 hours per week on average.
Testing Policy

All exams will be started at the same time. Once the exam starts students will have a minimum of 2 hours in which to complete the exam.

Make up exams are difficult to schedule. If you must be absent from an exam due to illness, personal emergency etc, you must notify me before test start time. Any make up exam that is deemed appropriate to administer can take an alternate format. It is strongly encouraged that students make every attempt to take the exam on the date it is scheduled. When an exam is allowed for makeup purpose, it will be scheduled at the instructor’s convenience. The instructor will make every attempt to re-schedule a time that works well for the student. However, if there are more than one student in this situation, both students will be scheduled at the same time/date.

Homework policy

All work must be turned in on the specified due date. Most of the time the homework will be submitted to assignment links in blackboard. I will announce through blackboard any deviation from this practice. Homework is assigned well in advance of a due date. Since most of the assignments are submitted through blackboard there should be very few reasons that justify late submissions.

*I reserve the right to alter due dates and will do so with announcement in class/bb-email system. When I make changes, it is for the convenience of students.*

Late homework policy

For every class day that an assignment is late, 20 points will be deducted from earned grade. If I receive an email from you prior to missing class, and an assignment was due to be turned into class as opposed to submission to blackboard, you will be allowed the next class date or Friday of the week you missed class to get the assignment turned in.

Missing assignments due to absence

If you must miss class, please email instructor in advance of class that will be missed. If email is received, any work that was missed can be made up. However, it is the student’s responsibility to stay on top of missed work, not the instructor. Additionally, for planning purposes, this class will probably require a minimum of 3-6 study hours per week on average.

Student Absence for Observance of Religious Holy Days

A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. See ASU Operating Policy 10.19 Student Absence for Observance of Religious Holy Day for more information.
Academic Integrity
Students are expected to maintain complete honesty and integrity in all work. Any student found guilty of any form of dishonesty in academic work is subject to disciplinary action and possible expulsion from ASU.

The College of Health and Human Services adheres to the university’s Statement of Academic Integrity.¹

Plagiarism
Plagiarism is a serious topic covered in ASU’s Academic Integrity policy in the Student Handbook. Plagiarism is the action or practice of taking someone else’s work, idea, etc., and passing it off as one’s own. Plagiarism is literary theft.

In your assignments, it is unacceptable to copy word-for-word without quotation marks and the source of the quotation. It is expected that you will summarize or paraphrase ideas giving appropriate credit to the source both in the body of your paper and the reference list. All case study questions and all questions for reviews must have references included in APA format.

Papers are subject to be evaluated for originality. Resources to help you understand this policy better are available at the ASU Writing Center.⁷

Social Media Policy
No cell phone use in classroom.

Accommodations for Students with Disabilities
ASU is committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs or activities of the university, or be subjected to discrimination by the university, as provided by the Americans with Disabilities Act of 1990 (ADA), the Americans with Disabilities Act Amendments of 2008 (ADAAA) and subsequent legislation.

Student Disability Services is located in the Office of Student Affairs, and is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability. It is the student’s responsibility to initiate such a request by contacting an employee of the Office of Student Affairs, in the Houston Harte University Center, Room 112, or contacting the department via email at ADA@angelo.edu. For more information about the application process and requirements, visit the Student Disability
Services website. The employee charged with the responsibility of reviewing and authorizing accommodation requests is:

Dallas Swafford  
Director of Student Disability Services  
Office of Student Affairs  
325-942-2047  
dallas.swafford@angelo.edu  
Houston Harte University Center, Room 112

Incomplete Grade Policy
It is policy that incomplete grades be reserved for student illness or personal misfortune. Please contact faculty if you have serious illness or a personal misfortune that would keep you from completing course work. Documentation may be required. See ASU Operating Policy 10.11 Grading Procedures for more information.

Copyright Policy
Students officially enrolled in this course should make only one printed copy of the given articles and/or chapters. You are expressly prohibited from distributing or reproducing any portion of course readings in printed or electronic form without written permission from the copyright holders or publishers.

Syllabus Changes
The faculty member reserves the option to make changes as necessary to this syllabus and the course content. If changes become necessary during this course, the faculty will notify students of such changes by email, course announcements and/or via a discussion board announcement. It is the student’s responsibility to look for such communications about the course on a daily basis.

Nursing Weblinks
- Board of Nursing for the State of Texas
- BSN Student Resources

Title IX at Angelo State University
Angelo State University is committed to providing and strengthening an educational, working, and living environment where students, faculty, staff, and visitors are free from sex discrimination of any kind. In accordance with Title VII, Title IX, the Violence Against Women Act (VAWA), the Campus Sexual Violence Elimination Act (SaVE), and other federal and state laws, the University prohibits discrimination based on sex, which includes pregnancy, and other types of Sexual Misconduct. Sexual Misconduct is a broad term encompassing all forms of
gender-based harassment or discrimination and unwelcome behavior of a sexual nature. The term includes sexual harassment, nonconsensual sexual contact, nonconsensual sexual intercourse, sexual assault, sexual exploitation, stalking, public indecency, interpersonal violence (domestic violence or dating violence), sexual violence, and any other misconduct based on sex.

You are encouraged to report any incidents involving sexual misconduct to the Office of Title IX Compliance and the Director of Title IX Compliance/Title IX Coordinator, Michelle Boone, J.D. You may submit reports in the following manner:

Online: www.angelo.edu/incident-form
Face to face: Mayer Administration Building, Room 210
Phone: 325-942-2022
Email: michelle.boone@angelo.edu

*Note, as a faculty member at Angelo State, I am a mandatory reporter and must report incidents involving sexual misconduct to the Title IX Coordinator. Should you wish to speak to someone in confidence about an issue, you may contact the University Counseling Center (325-942-2371), the 24-Hour Crisis Helpline (325-486-6345), or the University Health Clinic (325-942-2171).*

For more information about resources related to sexual misconduct, Title IX, or Angelo State’s policy please visit: www.angelo.edu/title-ix.

**Course Schedule**

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<thead>
<tr>
<th>Week/Date</th>
<th>Topic/Assignments/Assessments DUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>One/June 7, 9</td>
<td>Introduction/Chapter 6 reading assignment/June 6 Assignment/ Case study /June 13</td>
</tr>
</tbody>
</table>
| Two/June 14, 16 | Chapter 2 reading assignment/June 13  
Chapter 7 reading assignment/ June 15 Assignment/ Case study /June 20 |
| Three/June 21, 23 | Chapter 3 reading assignment/June 20 Assignment/ Case study for chapter 3/June 27  
**Exam One/ chapters 1,2,6 and 7/June 23** |
## Week/Date

<table>
<thead>
<tr>
<th>Week/Date</th>
<th>Topic/Assignments/Assessments DUE</th>
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</thead>
<tbody>
<tr>
<td>Four/June 28, 30</td>
<td>Chapter 4 reading assignment/June 27 Assignment / Case study for chapter 4/July 4 Chapter 8/electrolytes reading assignment/June 29 Assignment/ Case study/July 5</td>
</tr>
<tr>
<td>Five/July 5, 7</td>
<td>Chapter 9 reading assignment/July 4 Assignment/ ABG problems/July 11 Chapter 8/Fluids reading assignment/July 6</td>
</tr>
<tr>
<td>Six/July 12, 14</td>
<td>Chapter 18/ Elimination reading assignment/July 11 Assignment/ case study for chapter 18/July 18 <strong>Exam Two /chapters 3,4, 8-electrolytes, 9-acid base/July 14</strong> Assignment/endocrine review questions/ July 19</td>
</tr>
<tr>
<td>Seven/July 19, 21</td>
<td>Chapter 13 reading assignment/July 18 Assignment/ endocrine review questions/July 18 Chapter 14 reading assignment/July 20</td>
</tr>
<tr>
<td>Eight/July 26, 28</td>
<td>Chapter 20/reading assignment/July 25 Assignment/ diabetes review questions/ July 25 <strong>Exam Three/ chapters 8-fluids, 18, 13 and 14)-July 28</strong></td>
</tr>
<tr>
<td>Nine/Aug 2, 4</td>
<td>Chapter 15/reading assignment/Aug 1 Assignment/ case study/ Aug 8 Chapter 16 reading assignment/Aug 3 Assignment/ case study/Aug 8</td>
</tr>
<tr>
<td>Ten/Aug 9, 11, 13</td>
<td>Chapter 10 read clinical models/Aug 8 Chapter 12/ read fibromyalgia and migraines/Aug 10 <strong>Final Exam/comprehensive (50% chapters 20, 15, 16, 10, 12; 50% remaining chapters)-Aug 13, 2-4 PM</strong></td>
</tr>
</tbody>
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## Grading Rubrics

**Student Evaluation of Faculty and Course**

Students in all programs are given the opportunity to evaluate their courses and the faculty who teach them. Evaluations are most helpful when they are honest, fair, constructive, and
pertinent to the class, clinical experience, or course. Faculty value student evaluations, and use student suggestions in making modifications in courses, labs and clinical experiences. Angelo State University uses the IDEA (Individual Development and Educational Assessment) system administered through Kansas State University for all course evaluations. The Office of Institutional Research and Assessment administers IDEA for the entire university, online and has established a policy whereby students can complete course evaluations free from coercion.

1. Gaining a basic understanding of the subject (e.g., factual knowledge, methods, principles, generalizations, theories)
2. Learning to apply course material (to improve thinking, problem solving, and decisions)
3. Learning to apply knowledge and skills to benefit others or serve the public good

End of Syllabus

1 https://www.angelo.edu/student-handbook/
2 https://www.angelo.edu/catalogs/
3 https://www.angelo.edu/dept/nursing/handbook/index.php
4 https://www.angelo.edu/content/files/14206-op-1019-student-absence-for-observance-of
5 https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php
6 https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php
7 https://www.angelo.edu/dept/writing_center/academic_honesty.php
8 https://www.angelo.edu/services/disability-services/
9 https://www.angelo.edu/content/files/14197-op-1011-grading-procedures
10 https://www.bon.texas.gov/
11 https://www.angelo.edu/dept/nursing/student_resources/undergrad_info.php