

PT 7325

Neuropathology II



Instructor:

Laura Wilson, PT, DPT, NCS

Email: laura.wilson@angelo.edu

Phone: 325-486-6883

Office: HHS 244A

Office Hours: By appointment

Guest Lecturers:

Megan Cordes, PT, DPT, WCS

Khristina Douglas, M.S., CCC-SLP

Courtney Warren, PT, DPT

Course Information

Course Description

Students will extend their knowledge of the structure and function of the central and peripheral nervous systems and apply the knowledge within the context of altered structures and function of the nervous system in various neuropathologies common to physical therapy practice.

Medical Management of neuropathologies will be discussed.

Course Credits

3 Credits (3 - 0 - 0)

Prerequisite and Co-requisite Courses

Successful completion of previous DPT coursework

Prerequisite Skills

Understanding of neuroanatomy and proficiency with a computer as required for completing projects/assignments are expectations of the Neuropathology I course.

Program Outcomes

Upon completion of the program of study for the Department of Physical Therapy, the graduate will be prepared to: successfully select and implement appropriate actions to safely and effectively manage the day-to-day tasks of a physical therapist utilizing current concepts for patient management.

Student Learning Outcomes

Student Learning Outcome By completing all course requirements, students will be able to:	Assignment(s) or activity(ies) validating outcome achievement:
Recapitulate the principles and the time sequence of neurodevelopment. 7C	Cases Review questions Exam
Differentiate the sequelae of impaired development during various critical periods of the neural systems. 7C	Cases Review questions Exam
Describe the genetic and epigenetic influences on CNS development.	Cases Review questions Exam
Identify the major mechanisms of neuropathology and specific diseases/conditions to which they apply. 7A, 7C	Cases Review questions Exam
Examine the positive and negative effects of pharmacologic agents on the nervous system based on their sites of interaction. 7A	Cases Review questions Exam
For each pathology/condition covered, categorize impairments using the ICF model. 7D21	Cases Review questions Exam
For each pathology/condition covered, characterize the natural course of the pathology/conditions as it relates to the provision of physical therapy services.	Cases Review questions Exam
For each pathology/condition covered, identify relevant complications and precautions.	Cases Review questions Exam

Numbers following the objectives refer to the CAPTE Standard 7 Curriculum

Course Delivery

This is a face-to-face course with learning resources and supplemental materials posted in Blackboard. A variety of teaching methods and learning activities will be utilized in the course including lecture, discussion, AV material, reading assignments, and case studies. However, dependent on university decisions, portions of this course may be online. In that event, the course will be delivered via the Blackboard Learning Management System and may be accessed at [ASU's Blackboard Learning Management System](#).

Required Texts and Materials

1. Goodman CC, Fuller KS. *Pathology: Implications for the Physical Therapist*, 4th ed. St. Louis, MO: Saunders, 2015. (previously purchased)
2. Lundy-Ekman L. *Neuroscience: Fundamentals for Rehabilitation* 5th ed. Philadelphia, PA: W. B. Saunders, 2018. (previously purchased)
3. O'Sullivan SB, Schmitz TJ, Fulk G. *Physical Rehabilitation*. 6th ed. Philadelphia, PA: F.A. Davis, 2014. (**Also required for future courses**)

Recommended Texts and Materials

1. Tecklin JS. *Pediatric Physical Therapy* 5th ed., Philadelphia, PA: Lippincott, Williams and Wilkins, 2014.
2. Blumenfeld H. *Neuroanatomy through Clinical Cases* 2nd edition. Sunderland, MA: Sinauer Associates, Inc., 2010.

Technology Requirements

To successfully complete this course, students will need a laptop or tablet with the following programs updated:

- Respondus Lockdown Browser and Monitor (which requires a webcam)
- Blackboard Collaborate (which requires a webcam)

Dependent on university decisions, portions of this course may be online. 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

Refer to Angelo State University's Distance Education website for further technology requirements: [Angelo State University's Distance Education Website](#)

Topic Outline

See course schedule below.

Communication

Faculty will respond to email and/or telephone messages within 24 hours during working hours Monday through Friday. Weekend messages may not be returned until Monday.

Office hours are by appointment only but are encouraged if needed. Please contact faculty via email or in person to set up an appointment.

Written communication via email: Notifications, announcements, etc. will be communicated exclusively through your ASU email address and/or Blackboard. Check frequently for announcements and policy changes. In your emails to faculty, include the course name and section number in your subject line.

Virtual communication: Office hours and/or advising may be done with the assistance of the telephone, Collaborate, Skype, etc.

Grading

Evaluation and Grades

Course grades will be determined as indicated in the table below.

Assessment	Percent/Points of Total Grade
Exams (2 at 20% each)	40
Final Exam	30
Patient Education Videos (3 at 10% each)	30
Total	100%

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 percent

B = 80.00 – 89.99 percent

C = 70.00 – 79.99 percent (DOES NOT MEET MASTERY)

F < 70 percent

All written exams in PT 7325 are comprehensive and will be computer administered. The exams will consist of multiple-choice questions. Exams will require the student to have the appropriate technology and software. Students are expected to take the exams at the scheduled times.

Make-up exams are at the discretion of the instructor. **Mastery on each exam is not required but the student must achieve a minimal competency level of 80% by the end of the semester. No retakes of exams will be given.**

Failure to achieve a minimal competency level of 80% by the end of the semester will result in Academic Probation and the forwarding of the student records to the Academic Committee for consideration of options including possible Program dismissal.

Teaching Strategies

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

***Please note: Rubrics for all assignments and activities are located at the end of this syllabus.**

Education Videos: There are three education videos assigned for this class. These assignments are designed to assess student understanding of the subject material while helping students

synthesize and apply neuroanatomy and neuropathology information learned during the semester. The assignments will require processing information and subsequently explaining that information in a way that would be accessible to people of various backgrounds, as is an integral part of the physical therapy profession. Students will choose a topic or diagnosis discussed in class, will come up with a relevant question that a patient may ask, and will briefly present that information as though answering and educating the patient (as the SPT or PT would during a PT evaluation or treatment session).

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 laura.wilson@angelo.edu and attach a copy of what you are trying to submit. 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

Assignment due dates & times are shown on the calendar/schedule and/or posted within Blackboard. Without prior approval, assignments submitted after the scheduled due *time* but still on the due *date* MAY be accepted at the professor's discretion with at least 5% deduction. All other late submissions are not accepted without prior approval of faculty. When accepted with prior approval, late work will result in a five percent deduction for each day after the posted deadline. No papers or postings 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
- DPT Program Student Handbook located in the DPT Program Blackboard page.

Student Responsibility and Attendance

Attendance and promptness to classes, meetings, and future work obligations are considered professional behaviors. As this department is preparing potential professionals in the area of physical therapy, it is part of our expectation that student presence and timeliness will be held in highest regard. Tardiness is a disruption to the instructor and fellow students. A student is considered tardy if he/she arrives for class after the instructor has begun class activities. Please see the following related to implications from excessive lateness or absences without a reasonable excuse:

- a. First offense - verbal warning
- b. Second offense - second verbal warning, initiation of Disciplinary Tracking Form.
- c. Third offense - 1% off final course grade
- d. 1% off final course grade for each additional unexcused tardy or absence

Per the student handbook, **2 or more occurrences combined or mixed will result in the initiation of a Disciplinary Tracking Form.**

If a student has an unexcused absence during integrations it may lead to the removal of that student from that clinical environment. It is the responsibility of the student to contact the clinical site and give notice if they are ill or have transportation issues.

If the student is unable to attend class, it is the student's responsibility to either call the PT office at 942-2545 or the office of the professor of the class directly. This notification should be made prior to commencement of said class.

Continued issues with tardiness/attendance across all courses will result in disciplinary probation and will be referred to the PT faculty for consideration of options, including program dismissal.

The PT faculty is not oblivious to doctor appointments and other potential hazards and emergencies in daily life. Simply taking responsibility to notify the office or the professor if issues arise is considered professional behavior. Please do not rely on a classmate or other form of notification, as these have proven unreliable in years past.

ATTENDANCE AT ALL SCHEDULED EXAMINATIONS IN THE SCHEDULED LOCATION (e.g., CLASSROOM OR TESTING CENTER) IS MANDATORY.

Any unexcused absence from an examination will automatically result in a score of ZERO for that examination. Attempt(s) to take the exam in a location other than that scheduled by the professor without prior approval will automatically result in a score of ZERO for that examination. In the event that a student is

late to an exam, that student will automatically receive a MINIMUM of 15 percentage points off of the total exam grade, and will ONLY be given the remainder of the time from the scheduled start time to finish the exam. Additionally, attempting to take the exam in an unscheduled location or being late to or absent from an exam will result in initiation of a disciplinary tracking form. Any student absent from examinations due to illness or injury must have a written justification from their physician. **Absence from or tardiness to an examination for any other reason must be excused before the time of the scheduled examination by the professor or** brought about by a very serious circumstance. For excused absences only, make-up examinations must be taken no later than one week after the student returns to class. Extended absences must be approved by the Program Director of Physical Therapy.

Cell Phone: Students must silence cell phones and place them out of sight during class unless instructed to use them by the professor. Permission may be granted, at the instructor's discretion, to have a cell phone out during class. Students seeking permission to have cell phones out during class must do so prior to the start of class. The first offense includes a verbal warning that will be documented in the behavioral tracking sheet. The second offense includes the initiation of a disciplinary tracking form. The third offense will result in the convening of a disciplinary committee to decide upon further disciplinary action.

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 of disciplinary action and possible expulsion from ASU.

The College of Health and Human Services adheres to the university's [Statement of Academic Integrity](#).³

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](#).⁴ 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](#)⁵ for more information.

Plagiarism

Plagiarism is a serious topic covered in ASU's [Academic Integrity policy](#)⁶ 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 discussions and/or your papers, 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.

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

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](#)⁸ 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.

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

Week/Date	Topic	Reading & Assignments
Week 1		
January 18 1:30-3:00pm	Syllabus review Neuropathology 1 review	Syllabus
January 20 1:30-3:00pm	Vestibular, dizziness, and balance	Lundy Ekman ch. 22-23 <i>Supplementary: G&F ch. 38, O'Sullivan ch. 21</i>
Week 2		
January 25 1:30-3:00pm	Vestibular, dizziness, and balance	Lundy Ekman G&F ch. 38 pg. 1643-1659 <i>Supplementary: Lundy Ekman ch. 22-23, O'Sullivan ch. 21</i>
January 27 1:30-3:00pm	Neuropathic Pain, Central Sensitivity, and Pain	Lundy Ekman Chapter 12 <i>Supplementary: O'Sullivan ch. 22</i>
Week 3		
February 1 1:30-3:00pm	CVA and stroke syndromes	G&F chapter 32 <i>Supplementary: O'Sullivan ch. 15, Blumenfeld ch. 10, Lundy Ekman ch. 25</i>
February 3 Online	CVA and stroke syndromes	G&F chapter 32 <i>Supplementary: O'Sullivan ch. 15, Blumenfeld ch. 10, Lundy Ekman ch. 25</i>
Week 4		
February 8 1:30-3:00pm	Traumatic/Acquired Brain Injury	G&F chapter 33 <i>Supplementary: O'Sullivan ch. 19</i>
February 10 1:30-3:00pm	Spinal Cord Injury	G&F chapter 34 <i>Supplementary: O'Sullivan ch. 20</i> Patient Education Video 1 due 2/12 at 8pm
Week 5		
February 15 1:30-3:00pm	EXAM	
February 17 1:30-3:00pm	Spasticity	TBA
Week 6		
February 22 1:30-3:00pm	Neoplasms	G&F Chapter 30

Week/Date	Topic	Reading & Assignments
February 24 1:30-3:00pm	Infectious Disorders of the CNS	G&F Chapter 29
Week 7		
March 1 1:30-3:00pm	Multiple Sclerosis and Amyotrophic Lateral Sclerosis	G&F pg. 1455-1464; 1481-149 <i>Supplemental: Lundy Ekman pg. 116-118; 286-287</i>
March 3 1:30-3:00pm	Parkinson's Disease, Huntington's Disease, and Dystonia (BG)	G&F pg. 1474-1481; 1494-1506 <i>Supplemental: Lundy Ekman pg. 309-319</i>
Week 8		
March 8 1:30-3:00pm	Alzheimer's Disease and Dementia	G&F pg. 1464-1474 Lundy Ekman pg. 515-520 <i>Supplemental: O'Sullivan ch. 27</i>
March 10 1:30-4:30pm	Speech and Swallowing – <i>Khristina Douglas</i> *Note time change	O'Sullivan Chapter 28
MARCH 14-18: SPRING BREAK		
Week 9		
March 22 1:30-3:30pm	Bowel, Bladder, and Sexual Function – <i>Megan Cordes</i> **Note time change	Recommended: Blumenfeld pp. 294-297 Patient Education Video 2 due 3/23 at 8pm
March 24 1:30-3:00pm	Brain Stimulation	TBA
Week 10		
March 29 1:30-3:00pm	EXAM	
March 31 1:30-3:00pm	Neurodevelopment	Lundy Ekman Chapter 8
Week 11		
April 5 1:30-3:00pm	Genetic and Developmental Disorders with Neuro Component	G&F chapters 23 & 35

Week/Date	Topic	Reading & Assignments
April 7 1:30-3:00pm	Cerebellar Disorders	Lundy Ekman chapter 15; TBA
Week 12		
April 12 1:30-3:00pm	Epilepsy and Seizures	G&F chapter 36
April 14 1:30-3:00pm	Psychosocial Disorders	O'Sullivan chapter 26
Week 13		
April 19	No class – see 4/22	
April 21	No class – see 4/22	
April 22 1:15-4:15pm	Genetic and Developmental Disorders – <i>Courtney Warren</i> **Note date/time change	G&F chapters 23 & 35 Patient Education Video 3 due 4/23 at 8pm
Week 14		
April 26 1:30-3:00pm	Health & Wellness in the Neuro Population	TBA
April 28 1:30-3:00pm	Clinical Connections	---
Week 15		
May 3 1:30-3:00pm	No class – see March 10, 22	---
May 5 1:30-3:00pm	<i>Topic/Final Review Day</i>	FINAL VIDEO SUBMISSION/REDOS DUE AT 1:30PM TODAY
Week 16		
May 10 1:30-3:00pm	Final Exam	

*Other readings may be assigned.

Rubrics

PT 7325: Neuropathology II Education Video Rubric

Question: *complexity and realistic question choice that a patient or family member may ask*

___ 5: Complex/moderate/average realistic question that patient/client may ask

___ 0: Unreasonable question or question that involves no complexity or understanding to answer (**redo required**)

Content/Understanding: *accurate and quality information that directly and fully answers the question*

___ 10: Complete accuracy, fully answers question, full breadth of response demonstrates superior understanding – post-graduate level; “I would choose you to treat my grandma.”

___ 9.5: Complete accuracy, fully answers question

___ 6: Complete accuracy but leaves “holes” in answer that would require follow up questions

___ 0: Answer is not accurate or does not answer the question (**redo required**)

Professionalism/Confidence: *presents as being an expert and having a thorough understanding of the topic (confident, appears to be speaking in their own words/not reading their answer, limited filler words (example: um, like, uh, you know?), not ending statements with the inflection of a question)*

___ 5: Projects excellent confidence (example: no excess use of filler words, appears to be speaking own words/not reading answer, confident body language, natural presentation)

___ 4: Shows moderate confidence

___ 3: Shows fair confidence

___ 2: Appears to lack confidence

Clarity/accessibility: *appropriate for educating people with 10th – 12th grade education*

___ 5: Highly accessible and simple (yet thorough) explanation; no use of words that someone with a 10th – 12th grade education wouldn't understand or people without medical background wouldn't understand

___ 4.5: Very accessible explanation; no use of words that someone with a 10th-12th grade education wouldn't understand or people without medical background wouldn't understand

___ 4: Accessible explanation; includes a few words/concepts that someone with a 10th – 12th grade education wouldn't understand or people without medical background wouldn't understand but the overall explanation would still probably be understood by either of the above

___ 1: Poorly accessible explanation; includes multiple words, phrases, comparisons, etc. that someone with a 10th – 12th grade education or without medical background would not understand causing the overall explanation would be ineffective in these populations, HOWEVER, the information is still correct and would be understood by people with higher education or people with medical backgrounds

___ 0: Inaccessible explanation: explanation that is unclear or doesn't make sense to grading faculty (**redo required**)

Efficiency: *demonstrates ability to educate in limited time typically provided at end of an evaluation (this is graded based on the time it takes to ANSWER – time you take to ask the question does not count).*

___ 5: Answers the question in 2 minutes or less

___ 4: Answers the question in 3 minutes or less

___ 0: Takes more than 3 minutes to answer

TOTAL: _____ out of 30

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.

End of Syllabus

¹ <https://www.angelo.edu/student-handbook/>

² <https://www.angelo.edu/catalogs/>

³ <https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php>

⁴ <https://www.angelo.edu/services/disability-services/>

⁵ <https://www.angelo.edu/content/files/14197-op-1011-grading-procedures>

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/content/files/14206-op-1019-student-absence-for-observance-of>