COURSE NUMBER PT 7331
Motor Control and Clinical Applications
Fall 2021

Instructor/Coordinator:

You-jou Hung, PT, MS, PhD, CSCS
Email: yhung@angelo.edu
Phone: 325-942-2742
Office: HHS 224G
Office Hours: by appointment

Other Instructors:

Charlotte Buhle, PT, DPT

Course Information

Course Description

This course introduces students to theories and fundamentals of motor control, motor learning, motor development, balance control, and current methods in human movement analyses. Appropriate test selection, interpretation, and their implications on evidence-based practice in physical therapy will be discussed.

Course Location
Science Building III, Room 213

Course Hours
Monday  8:00am – 10:00 am: Lecture & Lab
Wednesday  8:00am – 10:00 am: Lecture & Lab.
Course Credits
3 Credits (3-1-0)

Prerequisite and Co-requisite Courses
Successful completion of previous DPT coursework

Prerequisite Skills
None

Program Outcomes

Upon completion of the program of study for the physical therapy program, the graduate will be prepared to:

Student Learning Outcomes

<table>
<thead>
<tr>
<th>Student Learning Outcome</th>
<th>Assignment(s) or activity(ies) validating outcome achievement:</th>
<th>Mapping to Program Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describe the anatomy and physiology of motor control and their relationship to various disturbances/abnormalities in motor functions</td>
<td>Meet mastery (earning 80% of the total score or better) for this course.</td>
<td>Fulfill CAPTE Standard: 7A</td>
</tr>
<tr>
<td>Compare and critique traditional and contemporary theories of motor control and motor learning</td>
<td>Meet mastery (earning 80% of the total score or better) for this course.</td>
<td>Fulfill CAPTE Standard: 7D9</td>
</tr>
<tr>
<td>Apply theories of motor control and motor learning to the development of physical therapy interventions</td>
<td>Meet mastery (earning 80% of the total score or better) for this course.</td>
<td>Fulfill CAPTE Standard: 7D10</td>
</tr>
<tr>
<td>Compare traditional and contemporary techniques for the measurement of motor performance</td>
<td>Meet mastery (earning 80% of the total score or better) for this course.</td>
<td>Fulfill CAPTE Standard: 7D19</td>
</tr>
<tr>
<td>Analyze clinical implications of motor control and motor learning research</td>
<td>Meet mastery (earning 80% of the total score or better) for this course.</td>
<td>Fulfill CAPTE Standard: 7D9</td>
</tr>
<tr>
<td>Compare normal and abnormal postural control and describe different strategies of postural control</td>
<td>Meet mastery (earning 80% of the total score or better) for this course.</td>
<td>Fulfill CAPTE Standard: 7D19</td>
</tr>
<tr>
<td>Student Learning Outcome</td>
<td>Assignment(s) or activity(ies) validating outcome achievement:</td>
<td>Mapping to Program Outcomes</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Correctly perform appropriate static and dynamic balance testing using the Biodex Balance System</td>
<td>Demonstrate clinical skills and submit a lab report that achieve mastery.</td>
<td>Fulfill CAPTE Standard: 7D19</td>
</tr>
<tr>
<td>Discuss principles of motor control and motor learning to optimize acquisition, retention, and transfer of motor skills in a rehabilitation setting</td>
<td>Meet mastery (earning 80% of the total score or better) for this course.</td>
<td>Fulfill CAPTE Standard: 7D10</td>
</tr>
<tr>
<td>Discuss and evaluate different stages of motor development</td>
<td>Meet mastery (earning 80% of the total score or better) for this course.</td>
<td>Fulfill CAPTE Standard: 7D19, 7D20</td>
</tr>
<tr>
<td>Demonstrate service learning and community engagement by performing motor development screening tests to examine motor function for children at various ages at a local early childhood center</td>
<td>Demonstrate clinical skills and submit a lab report that achieve mastery.</td>
<td>Fulfill CAPTE Standard: 7D10, 7D19, 7D20</td>
</tr>
</tbody>
</table>

**Course Delivery**

This is a face-to-face course with learning resources and supplemental materials posted on ASU’s Blackboard. The content of the course includes in-class instruction/discussion, video demonstration, case study analysis, multi-media programs (including PowerPoints), reading assignment, and lab reports.

**Required Texts and Materials**

None

**Recommended Texts and Materials**


**Technology Requirements**

To successfully complete this course, students need access to ASU’s Blackboard and Respondus Lockdown Browser.
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**

Unit 1: Theoretical framework of motor control  
Unit 2: Theoretical framework of motor learning  
Unit 3: Physiology of motor control  
Unit 4: Constraints on motor control: an overview of neurologic impairments  
Unit 5: Infant reflexes and motor development  
Unit 6: Postural control and posture evaluation

**Communication**

All communications for the class will take place via blackboard, which will send an e-mail to all active participants in the class.

E-mail through the ASU e-mail address is the preferred communication method for this course. Faculty will respond to e-mail messages within 24 hours during working hours Monday through Friday. Weekend messages may not be returned until Monday. Students should check ASU email account daily for announcements and schedule changes.

Appointments can be made for face to face meetings as needed.

**Grading**

**Evaluation and Grades**

Course grades will be determined as indicated in the table below.
<table>
<thead>
<tr>
<th>Assessment</th>
<th>Percent/Points of Total Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quizzes (3)</td>
<td>25%</td>
</tr>
<tr>
<td>Exam I</td>
<td>20%</td>
</tr>
<tr>
<td>Exam II</td>
<td>20%</td>
</tr>
<tr>
<td>Exam III</td>
<td>20%</td>
</tr>
<tr>
<td>Lab report 1</td>
<td>5%</td>
</tr>
<tr>
<td>Lab report 2</td>
<td>5%</td>
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<tr>
<td>Lab report 3</td>
<td>5%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

**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
- F < 80.00 points

**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.*

**Lab report assignments:** There are many small lab activities throughout the course but students are required to submit written lab reports for the following lab activities: Feed-forward/feedback control in balance lab, position sense lab, and motor development lab. Lab activities are design for students to practice clinical skills and/or reiterate the knowledge obtained during the lecture. Expectations and rubrics of the lab report and case study will be discussed in class.
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 yhung@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
None

General Policies Related to This Course
As a member of the Texas Tech University System, Angelo State University has adopted the mandatory Facial Covering Policy to ensure a safe and healthy classroom experience. Current research on the COVID-19 virus suggests there is a significant reduction in the potential for transmission of the virus from person to person by wearing a mask/facial covering that covers the nose and mouth areas. Therefore, in compliance with the university policy students in this class are required to wear a mask/facial covering before, during, and after class. Faculty members may also ask you to display your daily screening badge as a prerequisite to enter the classroom. You are also asked to maintain safe distancing practices to the best of your ability. For the safety of everyone, any student not appropriately wearing a mask/facial covering will be asked to leave the classroom immediately. The student will be responsible to make up any missed class content or work. Continued non-compliance with the Texas Tech University System Policy may result in disciplinary action through the Office of Student Conduct.

All students are required to follow the policies and procedures presented in these documents:

- [Angelo State University Student Handbook](#)
- [Angelo State University Catalog](#)

Student Responsibility and Attendance
Please remember that it is extremely disruptive and unprofessional to be late for class, come to lab unprepared or be absent from class/lab, especially when group activities are scheduled.

1. Absences
a. Students will abide by the absence policy delineated in each course instructor’s syllabus.
b. In case of absence, the student is responsible for obtaining the skills and knowledge necessary to meet required mastery level. Faculty members are not obligated to remediate students in these circumstances.
c. Absences without prior notification will not be tolerated during any field or clinical experience. This may result in immediate removal from the clinical experience.
d. Student must notify their instructor(s) via email regarding their absence.

2. Tardiness
Tardiness is a disruption to the instructor and the students. A student is considered tardy when he/she arrives for class after the instructor has begun class activities. It reflects poor professional behavior and will not be tolerated. Students will abide by the tardiness policy delineated in each course instructor’s syllabus.

Repeated tardiness or absences (≥ 2 occurrences combined or mixed) will result in the initiation of a Disciplinary Tracking Form.

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 email the course instructor(s) 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’s 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.

3. Technology

It is an expectation of the program that technology be used in a way that supports learning and benefits you and your classmates. 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. Points will be deducted from your final course grade at the discretion of faculty members if any technology (including but not limited to cell phone, tablet, laptop) is used in a manner that is not professional and beneficial in the learning environment. Additionally, 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. 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

Program Technical Standards

Policy Statement: “Angelo State University is committed to the principle that no qualified person, on the basis of a disability, be excluded from the participation in or be denied the benefit of 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 Act of 2008 (ADAAA) and subsequent legislation.” The university will review requests for accommodation on a case-by-case basis.

The Physical Therapy Program supports the Mission of Angelo State University (ASU) by providing access to a graduate, entry-level professional Doctor of Physical Therapy program that prepares a globally diverse, reflective, service-oriented, and flexible physical therapist practitioner capable of multiple styles of thinking and learning. Enrolled students are expected to complete the academic and clinical requirements of the professional program. The purpose of this document is to broadly delineate the cognitive, affective and psychomotor skills deemed essential for completion of this program and performance as a competent generalist physical therapist. Candidates for the degree must be able to meet these standards for completion of degree requirements.

I. Cognitive skills to be demonstrated in all classroom, laboratory and clinical situations
   A. The student physical therapist must possess the ability to independently:
      1. Measure, calculate, reason, analyze, integrate, retain and synthesize information to formulate effective solutions to problems congruent with a physical therapist.
      2. Examples of such behaviors:
a. Student physical therapists must be able to read, write, speak and understand English at a level consistent with successful course completion and development of positive patient/client-therapist relationships.
b. Student physical therapists must exercise critical thinking, decision-making and sound judgment.
c. Student physical therapists must be able to plan and supervise intervention procedures in a safe manner.

II. Affective skills to be demonstrated in all classroom, laboratory and clinical situations
A. Student physical therapists must possess the emotional health and stability required to fully utilize their intellectual abilities, to adapt to changing environments and to function effectively in stressful situations.
B. Student physical therapists must demonstrate ethical behaviors in compliance with the ethical standards of the American Physical Therapy Association.
C. Student physical therapists must be able to communicate in both oral and written form with patient/clients and other members of the health care community to:
   1. Effectively and sensitively elicit information.
   2. Convey information essential for safe and effective care.
D. Student physical therapists must be aware of and interpret non-verbal communications.
E. Student physical therapists must be able to acknowledge and respect individual values and opinions to foster harmonious working relationships with colleagues, peers, and patients/clients.

III. Physical/Psychomotor skills to be demonstrated in all classroom, laboratory and clinical situations
A. Student physical therapists must have sufficient motor function and endurance as reasonably required to perform the following:
   1. Safely provide general physical therapist examination, evaluation and intervention procedures as identified in the Guide to Physical Therapist Practice for eight hour days.
   2. Perform CPR according to the guidelines of the American Heart Association.
   3. Perform patient transfers (lifting 50 pounds to waist level).
B. Student physical therapists must have sufficient coordination and balance in sitting and standing to safely engage in physical therapist procedures such as the following:
   1. Moving and positioning patients/clients.
   2. Gait training.
   3. Stabilizing and supporting patients/clients.
   4. Manipulation of equipment and tools used in patient/client examination, evaluation and intervention.
C. Student physical therapists must have sufficient fine motor skills to safely and effectively engage in physical therapists procedures such as the following:
1. Manipulation of equipment and tools used in patient/client examination, evaluation and intervention
2. Legibly recording/documenting exams, evaluations and interventions in the clinic’s standard medical records in a timely manner and consistent with acceptable norms of the clinic.
3. Legibly recording thoughts for written assignments and exams.
4. Assessment and intervention of soft tissue restrictions and joint dysfunctions.
5. Palpation of muscle tone, skin quality and temperature.

D. Student physical therapists must have visual acuity necessary to obtain accurate information from patients/clients and the treatment environment in the performance of routine physical therapist activities such as the following:
1. Observation and inspection of patient’s/client’s skin condition, movements, body mechanics, gait pattern and postures.
2. Observation of environmental safety hazards.
3. Reading dials/LED displays on equipment.
4. Reading digits/scales on diagnostic tools.

E. Student physical therapists must have auditory acuity necessary to obtain accurate information from patients/clients and the treatment environment in the performance of routine physical therapist activities such as the following:
1. Blood pressure
2. Lung/heart auscultation
3. Patient calls or equipment alarms
4. Verbal communication

F. Student physical therapists must have sufficient non-material handling and repetitive movement ability to safely provide examination, evaluation and intervention procedures as identified in the Guide to Physical Therapist Practice for 8 hour days such as the following:
1. Crouching, kneeling, or squatting
2. Reaching
3. Standing
4. Ambulation
5. Bending or stooping
6. Sitting
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.

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 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.

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.

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

<table>
<thead>
<tr>
<th>Week/Date</th>
<th>Topic/Assignments/Assessments DUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1/Aug. 23 &amp; 25</td>
<td>Aug. 23: Theoretical framework of motor control</td>
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<tr>
<td></td>
<td>Introduction of motor control</td>
</tr>
<tr>
<td></td>
<td>Aug. 25: The nature of movements</td>
</tr>
<tr>
<td>Week/Date</td>
<td>Topic/Assignments/Assessments DUE</td>
</tr>
<tr>
<td>----------------</td>
<td>-----------------------------------------------------------------------</td>
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<tr>
<td></td>
<td>Categories of movements</td>
</tr>
<tr>
<td></td>
<td>Reflex</td>
</tr>
<tr>
<td></td>
<td>Reading: Shumway Ch.1; Kandel Ch.33,35</td>
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<tr>
<td>Week 2/Aug. 30 &amp; Sep. 1</td>
<td>Aug. 30: Reflex lab</td>
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<td></td>
<td>Voluntary movement</td>
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<tr>
<td></td>
<td>Reaction time</td>
</tr>
<tr>
<td></td>
<td>Reading: Shumway Ch.16; Kandel Ch.33; reaction time Article</td>
</tr>
<tr>
<td></td>
<td>Sep. 1: Feedback and feed-forward control</td>
</tr>
<tr>
<td></td>
<td>Theories of motor control-part I</td>
</tr>
<tr>
<td></td>
<td>Reading: Shumway Ch.1,16</td>
</tr>
<tr>
<td>Week 3/Sep. 6 &amp; 8</td>
<td>Sep. 6: Labor Day holiday</td>
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<tr>
<td></td>
<td>Sep. 8: Theories of motor control-part II</td>
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<tr>
<td></td>
<td>Motor control theory lab</td>
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<tr>
<td></td>
<td>Reading: Shumway Ch.1,16</td>
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<tr>
<td>Week 4/Sep. 13 &amp; 15</td>
<td>Sep. 13: Quiz 1</td>
</tr>
<tr>
<td></td>
<td>Sep. 15: Theoretical framework of motor learning</td>
</tr>
<tr>
<td></td>
<td>Introduction of motor learning</td>
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<td></td>
<td>Memory and motor learning</td>
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<td></td>
<td>Working memory lab</td>
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<tr>
<td></td>
<td>Reading: Shumway Ch.2,4; Kandel Ch.65</td>
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<tr>
<td>Week 5/ Sep. 20 &amp; 22</td>
<td>Sep. 20: Theories of motor learning</td>
</tr>
<tr>
<td></td>
<td>Reading: Shumway Ch.2</td>
</tr>
<tr>
<td></td>
<td>Sep. 22: Stages of motor learning</td>
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<tr>
<td></td>
<td>Feedback and balance control</td>
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<tr>
<td></td>
<td>Reading: Shumway Ch.2; Kandel Ch.37, 38</td>
</tr>
<tr>
<td>Week 6/Sep. 27 &amp; 29</td>
<td>Sep. 27: Exam I</td>
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<td>Sep. 29: Recovery of function</td>
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<tr>
<td></td>
<td>Clinical implication: motor control and motor learning of the ankle joint</td>
</tr>
<tr>
<td></td>
<td>Reading: JOSPT article</td>
</tr>
<tr>
<td>Week 7/Oct. 4 &amp; 6</td>
<td>Oct. 4: Feed-forward/feedback control in balance lab (group 1, 2, 3)</td>
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<tr>
<td></td>
<td>Oct. 6: Feed-forward/feedback control in balance lab (group 4, 5, 6)</td>
</tr>
<tr>
<td>Week/Date</td>
<td>Topic/Assignments/Assessments DUE</td>
</tr>
<tr>
<td>------------------</td>
<td>-----------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Week 8/Oct. 11 & 13 | Oct. 11: Feed-forward and feedback control lab discussion  
Practice and motor learning  
Reading: JOSPT article  
Oct. 13: Physiology of motor control  
H-reflex, M-wave, F-wave, and their clinical applications  
CNS function in motor control and motor learning  
Reading: Shumway Ch.2, 3; Kandel Ch.34,35  
**Feed-forward/feedback control in balance lab report due** |
| Week 9/Oct. 18 & 20 | Oct. 18: **Quiz 2**  
Oct. 20: Motor systems and motor unit  
Voluntary control of muscle force  
Immobilization and training adaptation of skeletal muscles  
Reading: Shumway Ch.3; Kandel Ch.22,35 |
| Week 10/Oct. 25 & 27 | Oct. 25: Sensory systems and their roles in motor control  
Reading: Shumway Ch.5; PTJ article  
Oct. 27: Position sense lab |
| Week 11/Nov. 1 & 3 | **Nov. 1: Exam II**  
Nov. 3: Mechanoreceptors  
Other sources for proprioception  
Ascending sensory pathways  
Reading: Kandel Ch.22,35  
**Position sense lab report due** |
| Week 12/Nov. 8 & 10 | Nov. 8: Constraints on motor control: an overview of neurologic impairments  
Motor weakness and abnormal muscle tone  
Coordination abnormalities  
Reading: Shumway Ch.5  
Nov. 10: Infant reflexes, development milestones  
Motor development assessment  
Reading: Shumway Ch.8 |
| Week 13/Nov. 15 & 17 | **Nov. 15: Quiz 3**  
Nov. 17: Motor development (Hung and Buhle)  
Reading: Shumway Ch.8 |
| Week 14/Nov. 22 & 24 | Nov. 22: Motor development lab at ECC (group 1) (Hung and Buhle)  
Nov. 24: Thanksgiving holiday |
Week/Date | Topic/Assignments/Assessments DUE
---|---
Week 15/Nov. 29 & Dec. 1, 3 | Nov. 29: Motor development lab at ECC (group 2) (Hung and Buhle) 
Infant motor development assessment lab report due for group 1 
Dec. 1: Postural control and posture evaluation 
Postural control development 
The impact of aging on postural control 
Reading: Shumway Ch.8, 9 
Dec. 3: Infant motor development assessment lab report due for group 2

Week 16/Dec. 6 | Dec. 6: Exam III (Final exam): 8:00 - 10:00 am

Grading Rubrics
All 3 exams will be weighted equally (20% of the total score). The average of the 3 quizzes (weighted equally) will count for 25% of the total score. Each lab report will be count for 5% of the total score. If unexcused absences and tardiness occur, deduction from the total score will be implemented according to the guidelines described in the “Student Responsibility and Attendance” section.

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.

The faculty and course will be evaluated with the focus on the following objectives:

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)

End of Syllabus