COURSE SYLLABUS
for
PTHA 1413
Functional Anatomy

CATALOGUE DESCRIPTION
The relationship of the musculoskeletal and neuromuscular systems to normal and abnormal movement. Study of human anatomy and its application to physical therapy. Integration of skills related to the kinesiological assessment of the human body.

CREDIT
4

PREREQUISITES AND COREQUISITES
ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing
Corequisite: PTHA 1225 and 1305

ADA STATEMENT
LSCS is dedicated to providing the least restrictive learning environment for all students. The college district promotes equity in academic access through the implementation of reasonable accommodations as required by the Vocational Rehabilitation Act of 1973, Title V, Section 504 and the Americans with Disabilities Act of 1990 (ADA) which will enable students with disabilities to participate in and benefit from all post-secondary educational programs and activities. If you require reasonable accommodations because of a physical, mental, or learning disability, please notify the instructor of this course within the first 2 weeks of the term. Disability Services is located in E101F.

PURPOSE
Upon completion of this course the student will possess and understanding of applied functional anatomy with a specific emphasis on the musculoskeletal system. The student will also possess an understanding of kinesiology and mechanics as it relates to movement.

COURSE OUTCOMES
Upon completion of this course students will be able to:
1. Identify and locate the musculoskeletal and neurological structures of the human body (F1,2,5,6,7,10,11,12; C 3,5,6,11,12,13,14,15,16,17,18,19)
2. Differentiate between normal and abnormal movement (F1,8,9,10;C11,12,15,16,17,20)
3. Interpret biophysical principles as they relate to the application of physical agents.(F1,5; C1)
4. Determine bone placement and their structure, function and development. (F1,7,10; C 1,6,12,15)
5. Indicate joint types, structure, and components (F1,7,10;C1,6,12,15)
6. Conceptualize kinesiology including lever systems, mechanics and kinematics
7. Determine the components of the axial and appendicular skeletons.

8. Apply muscle physiology and contraction types to rehabilitation.

9. Demonstrate the ability to identify myology including muscle attachment, innervation, and movement.

10. Demonstrate the ability to identify the central nervous system.

11. Coordinate the cardiac system.

12. Coordinate the pulmonary system.

TOPICS
- Identification and description of the bones, their surface markings, attachments and relations.
- Identification of the major muscle groups and muscles of the body.
- Peripheral nervous system:
  - nerve roots
  - plexi (lumbar and brachial)
  - major nerves
  - motor and sensory innervations
- Principles of movement
  - types of muscle contraction
  - factors affecting muscle tension, speed of contraction, endurance
  - lever systems
  - arthrokinematic vs. osteokinematic movement
- Kinesiology and applied functional anatomy for the trunk, thigh, leg / foot, arm, forearm / hand, and face to include the following topics:
  - skeletal anatomy and joint structure
  - capsuloligamentous anatomy
  - muscular anatomy
  - sensory and motor innervations
  - movement for each of the body regions
- Cardiovascular anatomy and its function related to movement
- Respiratory anatomy and its function related to movement

REQUIRED MATERIALS

RECOMMENDED MATERIALS
- Seegmiller, RE, Human Anatomy Interactive Lab CD, Hayden-McNeil Publishing

INSTRUCTOR
Dr. Nanette Meyer PT, DPT, MSPT

Office
Building B, Suite 100, Office J
Phone

Office: 936-273-7471
Metro: 936-321-5161, ext. 7471
FAX: 936-273-7050
e-Mail: Nanette.M.Meyer@Lonestar.edu

SEMESTER / LOCATION / TIME

Fall Term
Lecture: M &W 9:00-10:30 am, A227
Lab: M &W 10:30am-12:30 pm, A225

OTHER RESOURCE MATERIALS

Library resources -- anatomy, physiology & kinesiology
ELC -- Anatomy & physiology tutoring, models & A/V resources.
Physical Therapy (journal)
Journal of Orthopedic and Sports Physical Therapy
Biomechanics (journal)
*CD ROM’s:
  Human Anatomy
  Radiologic Anatomy
  The Dynamic Human
  Clinical Anatomy

Internet sites

EVALUATION

Testing
1. Written exams 3 x 50 points 150
2. Comprehensive Final 100
3. Practical exams 3 x 50 points 150
4. Quizzes 12 x 10 points 120
5. Written lab quizzes 5 x 30 points 150
6. Movement analysis project 30

TOTAL 700

Grades:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
<th>Score Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90% - 100%</td>
<td>630-700</td>
</tr>
<tr>
<td>B</td>
<td>80% - 89%</td>
<td>560-629</td>
</tr>
<tr>
<td>C</td>
<td>75% - 79%</td>
<td>525-559</td>
</tr>
<tr>
<td>F</td>
<td>less than 75%</td>
<td>&lt;524</td>
</tr>
</tbody>
</table>

All exams must be taken, and a cumulative passing score (greater than 75%) must be obtained in each of the evaluation components in order to pass this class. Each exam must be passed with a 75%. These
components include both the didactic (written exams) and the practical/skills (lab exams). Only after this requirement is met will the scores for other factors be included to determine the final grade.

In order to pass the lab portion of the class, the critical safety skills must be mastered on all practicals and check-offs. If a student does not meet one critical skill for that lab exam or check off with at least a 75%, the student is required to retake that exam. If on this second attempt the skill is still not mastered, the student will be required to remediate. If on the third attempt the skill is still not mastered for a maximum score of 75%, the student will receive a 0 for that exam. The original grade will remain the posted grade. Proficiency must be attained in the laboratory within 3 attempts. The student is not allowed to proceed until all critical skills are satisfactorily checked off. If a student cannot complete a critical skill, they fail the course, must reapply to the program and, if accepted, must repeat the course. This process verifies a student’s readiness to continue through the program and for clinicals.

Quizzes may not be made up.

Due to the nature of the exam, Lab (practical) Exams may not be made up.

In order to pass this class with a 75% you must:
• Be prepared for any presentation at the time assigned or called upon. If you are not prepared with the correct information to turn in (references, research, documentation, etc) or are not able to load your presentation, you will have 10% automatically deducted from your grade.
• Turn in assignments, tests, etc at the time due and requested. If you do not turn them in at the time requested (for any reason) 10% will be automatically deducted for your grade.
• If you are granted the privilege to take a test late, 10% will be automatically deducted from your grade.
• You are required to participate in field trips and to be on time. You will have 10% deducted from your grade for being late and will have earned 0 points for absence.
• You are to sign your notes correctly. If they are not signed correctly, no points will be awarded.
• You must pass EACH test with at least a 75%.

OTHER COURSE/CLASSROOM POLICIES

Lab Dress:
Appropriate dress is to be worn/available for all labs. This is to include shorts and short sleeve/ sleeveless shirts, to expose as much skin as possible while studying those structures, while still being modest.

Attendance Expectations:
Being present in class is defined as being physically in your seat and awake. Arriving after roll has been called or after the instructor has started teaching after breaks will result in a tardy. Sleeping in a class is disruptive to other students and unprofessional. A student may be asked to leave class at the discretion of the instructor and will be counted absent. Remember that attendance is an important aspect of professionalism, and your future employers will be inquiring about your attendance patterns.

Attendance Expectations
To do well in each course, you must attend regularly and keep up with assignments. You cannot make a satisfactory grade without studying.

As many courses use discussion and the ability to work responsibly in a group, participation in the class discussions and activities is essential to successful completion.
The instructor has the option to drop a student from the class after the student has accumulated absences of two or more classes, particularly if these are not excused.

The instructor will begin each class by recording the students present. If you come in after this, you will be marked absent unless you see the instructor after class and let them know you were there.

In some cases, of course, there may be a good reason for you not to attend. In those cases you are expected to notify the instructor on or before the day of your absence so that he/she might classify your absence as excused—otherwise your absence is unexcused. Childcare is an excused absence—so long as you call the instructor prior to the start of class. If you do not tell the instructor before class starts, your absence will remain unexcused. You are allowed only two (2) unexcused absences per semester. Classroom door will be closed within 5-7 minutes after class time. Students arriving late will be admitted at the first break. Arriving late, but within 50% of remaining class period constitutes 1/2 of an unexcused absence.

Clarification of attendance policy

Excused absences are typically related to personal illness, required court appearances, a death in immediate family, and absences approved in advance. If you need an excused absence for religious reasons you need to get the instructor’s approval before the holy day or activity.

The method needed to communicate with the instructor is via phone on written letter with signature. Email in not a valid method for gaining an approved absence. Approval for a missed class MUST be obtained at least 15 minutes PRIOR to the start of class.

A students arriving to class after 15 minutes from the start of class will be considered late and will be regarded as absent.

**NO LONGER ATTENDING CLASS DOES NOT CONSTITUTE WITHDRAWAL FROM THIS CLASS, NOR DOES A STUDENT’S NOTIFICATION TO THE INSTRUCTOR THAT THE STUDENT WISHES TO BE DROPPED. FAILURE OF A STUDENT TO FILL OUT A “SCHEDULE CHANGE FORM” TO OFFICIALLY DROP THIS CLASS MAY RESULT IN A GRADE OF “F.”**

THE LAST DAY TO DROP THIS CLASS AND RECEIVE "W" IS FRIDAY, NOVEMBER 12, 2010, BY 4:00 P.M. AFTER THIS DATE, NO WITHDRAWALS WILL BE ISSUED.

If You’re Having Difficulty:
- If you find you are having difficulty, please contact me. I can be reached during office hours or by appointment. My office phone number and email address are listed.
- You may contact a counselor. Amy Roberson in B100 E at ext 7039, or Terry Albores in Office B220A at ext 7074

Behavior in the Classroom:
- While active participation in class activities is encouraged, behavior that is disruptive and interferes with the ability of others to benefit from the education will not be tolerated.
- Students displaying disruptive behavior in a class will be asked to leave that class, and this will be considered as partial attendance.
- Repeated incidents of disruptive behavior will result in dismissal of the student from the course.
Children:
- Generally, children are not allowed in class. However, under exceptional circumstances, a parent may bring their child to class with prior permission of the instructor.
- If a child is allowed into class, their behavior must not disrupt the normal conduct of that class or interfere with other students. This is the responsibility of the parent and will be treated in the same manner as other student disruptive behavior.
- Children may not be left unattended in the college.

Pagers and Cellular Phones
- Cellular phones and pagers should be deactivated during class and lab. In the event of family and childcare emergencies that require you to be “on call”, you must receive prior approval from the instructor. After the first violation of this policy all phones will be collected and returned after class.

Emergency Management
- Lone Star College System (LSCS) is committed to maintaining the safety of the students, faculty, staff, and guests while visiting any of our campuses. See http://www.lonestar.edu/oem for details. Register at http://www.lonestar.edu/12803.htm to receive emergency notifications. In the event of an emergency contact LSCS Police at (281) 290-5911 or X5911.

Counseling
- Current telephone number / office location for the division’s counselors – Terry Albores B220A, 936.273.7074; Amy Roberson B100E, 936.273.7039

Academic Integrity
The following is taken directly from the Lone Star College System Catalog concerning academic integrity:
“The Lone Star College System upholds the core values of learning: honesty, respect, fairness, and accountability. The system promotes the importance of personal and academic honesty. The system embraces the belief that all learners – students, faculty, staff and administrators – will act with integrity and honesty and must produce their own work and give appropriate credit to the work of others. Fabrication of sources, cheating, or unauthorized collaboration is not permitted on any work within the system.

The consequences for academic dishonesty are determined by the professor, or the professor and academic dean, or the professor and chief student services officer and can include but are not limited to:
1. Having additional class requirements imposed,
2. Receiving a grade of zero or “F” for an exam or assignment,
3. Receiving a grade of “F” for the course,
4. Being withdrawn from the course or program,
5. Being expelled from the college system.

Professors should clearly explain how the student’s actions violated the academic integrity policy, how a grade was calculated, and the actions taken.” (Lone Star College System 2010-2011 Catalog, page 70)
## PROPOSED CALENDAR

### Lectures:

<table>
<thead>
<tr>
<th>Week #</th>
<th>Lecture</th>
<th>Lab</th>
<th>Muscles Chapter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bones</td>
<td>Bones- Spine/Skull Bones- Lower Extremity</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Joints</td>
<td>Upper Extremity Planes/ Surface Anatomy</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Movement</td>
<td>Movement</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Movement con’t</td>
<td>Lab Quiz 1/bones, joints, movement</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Lumbar plexus, spinal nerve roots</td>
<td>Practical 1</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>Spine and Trunk (through extensors) Hip and Thigh</td>
<td>Spine and Trunk Hip, Thigh, Knee</td>
<td>5 7</td>
</tr>
<tr>
<td>7</td>
<td>Knee</td>
<td>Knee</td>
<td>Lab Quiz 2/ Spine, Thigh, Knee</td>
</tr>
<tr>
<td>8</td>
<td>Leg / ankle / foot</td>
<td>Lab Quiz 3/ Leg, ankle, foot</td>
<td>7</td>
</tr>
<tr>
<td>9</td>
<td>Exam 2</td>
<td>Practical 2</td>
<td>6</td>
</tr>
<tr>
<td>10</td>
<td>Brachial Plexus Shoulder, Shoulder girdle</td>
<td>Brachial Plexus Shoulder girdle</td>
<td>6</td>
</tr>
<tr>
<td>11</td>
<td>Arm/ Forearm / hand Head / face / TMJ</td>
<td>Arm, elbow, hand</td>
<td>Lab quiz 4/ Arm, elbow, hand /</td>
</tr>
<tr>
<td>12</td>
<td>CNS, Joint receptors,Cardiac and Pulmonary</td>
<td>CNS, Joint receptors, Cardiac and Pulmonary</td>
<td>Face/ Lab Quiz 5</td>
</tr>
<tr>
<td>13</td>
<td>Exam 3</td>
<td>Practical 3</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>TWU/ Projects/ Review</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>TWU/ Projects/ Review</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Final Exam</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>