TYLER JUNIOR COLLEGE

School of Continuing Studies
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Education & Training Plan
Kinesiology & Human Motion Specialist Certificate Program w/ Externship

Student Full Name: _____

Start Date: _____ End Date: _____

Program includes National Certification & an Externship Opportunity
Mentor Supported

Kinesiology & Human Motion Specialist Certificate Program w/ Externship

Course Code:	TJC-MT-KINS
Program Duration:	6 Months
Course Contact Hours:	375
Student Tuition:	$3,999

The Kinesiology & Human Motion Specialist

In today's industry of massage therapy, it is more important than ever to understand the intricacies of kinesiology and human motion so that you can best advise your clients, effectively interact with coworkers and devise various therapeutic plans. There are a wide range of opportunities available for massage therapists with a focus in kinesiology and there are many different potential business relationships that will be encountered throughout a typical career. Learning more about the business will serve to equip the massage therapist with information and tools that will be required as you begin your career.

The Kinesiology & Human Motion Specialist Program

This program overviews anatomy and physiology, kinesiology and human pathology in order to understand all the inner working of the human body, how you think about the human body as a health care professional, and how to communicate to colleagues and clients respectively about their bodies. In addition, the program discusses each body system in terms of the major anatomical structures and functions and explains how each system participates in homeostasis. The program further discusses selected major pathologies, including disease definitions and causes, signs and symptoms, diagnostic procedures, and possible treatments. Additionally, the program discusses common issues and changes that occur in each body system throughout the lifespan. The program also covers basic kinesiology principles as they apply to musculoskeletal anatomy and neuromuscular physiology. It emphasizes practical applications for hands-on practice, biomechanics applications for activities of daily living, and whole-body patterns in posture and gait.

Education and National Certifications

- Students should have or be pursuing a high school diploma or GED.
- There are no state approval and/or state requirements associated with this program.
- There is a National Certification exam available to students who successfully complete this program:
  - **Microsoft Office Specialist (MOS) Certification Exam**.

Program Objectives

At the conclusion of this program, students will:

- Define introductory kinesiology terms and concepts and relate to manual therapy
- Identify skeletal and joint structures, functions, concepts, and alignment principles
- Identify types of joint motion and concepts related to joint motion in manual therapy
- Identify muscular structures, functions, and concepts Relate to muscle balance/imbalance, body patterns, and manual therapy applications
- Describe NM structures and functions Describe theory and steps in basic NM therapies
- Define introductory biomechanical concepts and relate to body-use patterns, manual therapy, and body mechanics
- List and define components of ideal and faulty postures Describe applications of postural assessment to manual therapy treatments and body mechanics
- Describe components of gait Relate to pattern recognition and body mechanics
- Identify and differentiate tissue layers
- Demonstrate the palpation of tissue layers and describe the quality of touch per layer
- Identify bony landmarks, origins and insertions, and action of skeletal muscles Demonstrate the palpation of bony landmarks and skeletal muscles
- Demonstrate knowledge of what joint actions each muscle generates
- Use Microsoft Office

National Certification

Upon successful completion of this Tyler Junior College (TJC) program, students would be eligible to sit for the Microsoft Office Specialist (MOS) exam. Although there are no state approval, state registration or other state requirements for this program, students who complete this program at TJC will be prepared and are eligible to sit for this national certification exam. Students who complete this program are encouraged to complete the externship option with their program. Students who complete this program can and do sit for the MOS national certification exams and are qualified, eligible and prepared to do so. TJC works with each student to complete the exam application and register the student to take their national certification exam.

Externship / Hands on Training / Practicum

Although not a requirement, once students complete the program, they have the ability to participate in an externship and/or hands on practicum so as to practice the skills necessary to perform the job requirements of a professional in this field. Students will be assisted with completing a resume and/or other requirements necessary to work in this field. All students who complete this program are eligible to participate in an externship and will be placed with a participating organization near their location. TJC works with national organizations and has the ability to place students in externship opportunities nationwide.

Tyler Junior College contact: If students have any questions regarding this program including national certification and clinical externships**, they should call Judie Bower of Tyler Junior College at | 1-800-298-5226 or via email at jbow@tjc.edu**

Note: No refunds can be issued after the start date published in your Financial Award document.

School of Continuing Studies
TYLER JUNIOR COLLEGE

About Tyler Junior College!

Welcome to Tyler Junior College! One of the oldest junior colleges in Texas, the College was established in 1926 with a mission of providing the finest academic education for freshmen and sophomore students. Tyler Junior College remains committed to that goal while also recognizing the changing role of community colleges and the need to provide quality training for technical fields. There are several unique aspects of the healthcare career programs available to students through the School of Continuing Studies at Tyler Junior College (TJC). In addition to enrollment of over 32,000 students annually, Tyler Junior College (TJC) has been the Texas leader in healthcare technician training and education programs for over 12 years. Over the last 12 years, approximately 13,000 students have successfully completed TJC's Pharmacy Technician, Dental Assisting, Medical Billing & Coding, Clinical Medical Assistant and other healthcare programs.

www.tjc.edu/continuingstudies/mycaa

PEARSON
Education

Tyler Junior College and Pearson Education
The Tyler Junior College School of Continuing Studies eLearning programs were developed in partnership with Pearson Education to produce the highest quality, best-in-class content and delivery necessary to enhance the overall student learning experience, boost understanding and ensure retention. Pearson Education is the premier content and learning company in North America offering solutions to the higher education and career training divisions of colleges and universities across the country aimed at driving quality education programs to ensure student success.

About Pearson Education
Welcome to Pearson. We have a simple mission: to help people make more of their lives through learning. We are the world's leading learning company, with 40,000 employees in more than 80 countries helping people of all ages to make measurable progress in their lives. We provide a range of education products and services to institutions, governments and direct to individual learners, that help people everywhere aim higher and fulfil their true potential. Our commitment to them requires a holistic approach to education. It begins by using research to understand what sort of learning works best, it continues by bringing together people and organizations to develop ideas, and it comes back round by measuring the outcomes of our products. Please visit us at **www.pearson.com**

Kinesiology & Human Motion Specialist Program Detailed Student Objectives:

INTRODUCTION TO KINESIOLOGY

- Define kinesiology and explain the foundational concepts that that contribute to the study of human motion.
- Explain why the study of kinesiology has relevance in the application of therapeutic methods.
- Identify the areas of the body, positions in space, and the frame of reference for directional terminology.
- Describe basic neuromuscular concepts and therapeutic applications to improve neuromuscular patterning

THE SKELETAL SYSTEM AND JOINT MOTION

- List the structures and functions of the skeletal system.
- Identify the four primary types of connective tissue found in the body.
- Name and describe the three classifications of joints in the body.
- Define a joint and describe its function.
- Describe a synovial joint in the body, and explain range of motion, including factors that affect it.

THE NEUROMUSCULAR SYSTEM

- Define the muscular system and describe its main kinesiological functions.
- Explain the primary structure and function of the skeletal muscles.
- Define and motor unit and the all-or-none law.
- Define how a muscle is named and the origin and insertion of a muscle.
- Define and describe the myofascial system and the manual techniques that address it.
- Describe and compare the major divisions of the nervous system.
- Define a sensorimotor loop and describe how it works in faulty movement patterns.
- Describe the stretch reflex and a reflex arc.
- Define a trigger point and its effects and describe the process of trigger point therapy.

BIOMECHANICS, POSTURE, GAIT, AND PALPATATION

- Describe the primary biomechanical principles and concepts as they relate to massage therapists.
- Explain the various forces that act on the human body, and the effects they have on movement and posture.
- Describe several applications of biomechanics to effective and sound body mechanics for the massage practitioner.
- Define posture and describe the components of optimal upright posture.
- Explain the varying roles that skeletal muscles have in maintaining posture, as well as in creating movement.
- Describe the effects of faulty posture and the negative impact it has on the body.
- Define gait and explain the sequences of the full gait cycle.
- Describe basic gait assessment methods.
- Define palpation, and describe how palpation practiced as an art is useful in the massage therapy profession.

BONY LANDMARKS AND MUSCLES OF RESPIRATION

- Identify the three main functions of the thorax and primary function of respiration.
- List the bones and bony landmarks of the thorax, and demonstrate how to palpate them.
- Identify the four major joints of the thorax and describe their locations.
- Define and describe a rib separation and a rib dislocation.
- Identify and describe two types of rib motion.

- Identify the two primary muscles of respiration and the motion that they generate.
- Define intra-abdominal pressure (IAP) and describe its role in respiration.
- Identify the origins, insertions, and actions of the primary respiratory muscles.
- Demonstrate the active movement and palpation of each primary respiratory muscle.
- Identify the trigger points and pain referral patterns of the primary respiratory muscles.
- Describe and demonstrate the postural patterns of inhalation and exhalation fixations, paradoxical/upper chest breathing, and belly breathing.
- Define chronic obstructive pulmonary disease and name three types.
- Define hyperventilation. Describe its symptoms and what to do when it occurs.

BONY LANDMARKS AND MUSCLES OF THE ANKLE AND FOOT

- Name the 28 bones in the ankle and foot and describe the shape and location of each one.
- Name three functional parts of the foot and the bones in each part.
- List and demonstrate the palpation of seven bony landmarks of the ankle and foot.
- List the major ligaments of the ankle and foot and describe their locations and functions.
- List the three arches of the feet, identify their functions, and describe each one.
- Name and describe five major ligaments that support the vault of the arches.
- List the eight major joints of the foot and describe the structure and function of each one.
- Identify the origins, insertions, and actions of extrinsic muscles of the ankle and foot.
- Identify trigger points and pain referral patterns of extrinsic muscles of the ankle and foot.
- Demonstrate the active movement and palpation of each extrinsic ankle and foot muscle.
- Identify the origins, insertions, and actions of intrinsic muscles of the ankle and foot.
- Identify trigger points and pain referral patterns of intrinsic muscles of the ankle and foot.
- Demonstrate the active movement and palpation of each intrinsic muscle of the foot.

BONY LANDMARKS AND MUSCLES OF THE KNEE

- Name the three bones of the knee.
- List and demonstrate the palpation of 10 bony landmarks of the knee.
- Describe the menisci and bursae in the knee.
- Name and describe the two joints of the knee and seven supporting ligaments.
- Describe patellar movement and problems that occur with poor patellar tracking.
- Define the mechanical axis of the lower limb and the Q angle.
- Describe the range of motion and joint mechanics of the tibiofemoral joint.
- Name types of misalignments in the knee and describe the structural problems they cause.
- Define and contrast axial rotation and terminal rotation of the knee.
- Demonstrate the palpation of the menisci and prepatellar bursa of the knee.
- Identify the origins, insertions, and actions of the knee flexors and extensors.
- Identify the trigger points and pain referral patterns of the knee flexors and extensors.
- Demonstrate the active movement and palpation of the knee flexors and extensors.

BONY LANDMARKS AND MUSCLES OF THE HIP AND PELVIS

- Name the four bones of the hips and pelvis.
- List and demonstrate the palpation of 14 bony landmarks of the hips and pelvis.
- Describe the coxofemoral joint, its range of motion, and its supporting ligaments.
- Describe the two femoral inclinations and how the shape of the femur creates each one.
- Describe six ways the hip can move at the pelvis and six ways the pelvis can move on the femur.

- Name three pelvic joints, their functions and classifications, and their ranges of motion.
- Name and discuss four common hip problems.
- Define the lumbar pelvic rhythm and describe efficient and inefficient rhythms.
- Identify the origins, insertions, and actions of the muscles of the hips and pelvis.
- Identify the trigger points and pain referral patterns of the muscles of the hips and pelvis.
- Demonstrate the active movement and palpation of each muscle of the hips and pelvis.
- Identify three perineal muscles and describe their general locations and functions.
- Discuss the postural patterns that occur with chronically tight hamstrings or quadriceps.

BONY LANDMARKS AND MUSCLES OF THE SPINE

- List the three parts of the spine and the number of vertebrae in each part.
- Define and contrast kyphotic and lordotic curves and identify their locations in the spine.
- Name and describe the typical features of a vertebra.
- Demonstrate palpation of the spinal curves, spinous processes, and the lamina groove.
- Name and describe the two types of spinal joints and their supporting ligaments.
- Identify the normal range of motion in each part of the spine.
- Identify the origins, insertions, and actions of the three layers of posterior spinal muscles.
- Demonstrate the active movement and palpation of each posterior spinal muscle.
- Identify the trigger points and pain referral patterns of the posterior spinal muscles.
- Identify the origins, insertions, and actions of the abdominal muscles.
- Demonstrate the active movement and palpation of each abdominal muscle.
- Identify the trigger points and pain referral patterns of the abdominal muscles.

BONY LANDMARKS AND MUSCLES OF THE HEAD AND NECK

- List eight cranial bones and 14 facial bones and describe the location of each one.
- Name and describe three cartilaginous structures of the head and neck.
- Describe the structure and function of the hyoid bone.
- Demonstrate palpation of cranial and facial bones and miscellaneous structures of the neck.
- List four cranial sutures, describe their locations, and demonstrate palpation of each one.
- Describe the structure of the temporomandibular joint (TMJ) and its range of motion.
- Describe the atlanto-axial and atlanto-occipital joints and their range of motion.
- Identify the origins, insertions, and actions of the muscles of the head and neck.
- Demonstrate the active movement and palpation of each muscle of the head and neck.
- Identify the trigger points and pain referral patterns of the muscles of the head and neck.
- Discuss the role of the facial muscles in emotional expression and describe each one

BONY LANDMARKS AND MUSCLES OF THE SHOULDER GIRDLE

- List and describe the bony landmarks on the four bones making up the shoulder girdle.
- Demonstrate the palpation of the bony landmarks of the shoulder girdle.
- List four joints in the shoulder girdle and their classifications and range of motion.
- Name the major ligaments of the shoulder girdle and the location and function of each one.
- Describe and contrast two injuries: a shoulder dislocation and a shoulder separation.
- Describe the structure and function of the coracoacromial arch.
- Describe the neutral position of the shoulder girdle and the criteria for scapula neutral.
- Define scaption and describe how it relates to efficient arm movement.
- Define and describe the scapulohumeral rhythm.
- Identify the origins, insertions, and actions of the muscles of the scapula and shoulder.

- Identify trigger point locations and pain referral patterns for scapula and shoulder muscles.
- Demonstrate the active movement and palpation of each scapula and shoulder muscles

BONY LANDMARKS AND MUSCLES OF THE ARM AND HAND

- Name and describe the three bones in the arm and the eight carpals, five metacarpals, and 14 phalanges of the wrist and hand.
- Demonstrate the palpation of bony landmarks and primary movements of the arm and hand.
- Name the origins, insertions, and actions of the major ligaments of the elbow, wrist, and hand.
- List the four joints of the elbow and describe the structure and function of each one.
- List the seven types of joints in the wrist and hand and describe the structure and function of each one.
- Define supination and pronation and name the muscles that generate each action.
- Demonstrate the four passive movement ranges for the wrist.
- Describe the three arches and two general types of grips of the hand.
- Define the carpal tunnel and list the structures passing through it.
- Identify the origins, insertions, and actions of the muscles acting on the elbow and their trigger points.
- Demonstrate the palpation of and resisted movement for each one.
- Identify the origins, insertions, and actions of the muscles acting on the wrist and hand and their trigger points.
- Demonstrate the active movement of and palpation of each one.

Note: This program can be completed in 6 months. However, students will have online access to this program for a 24-month period.

MICROSOFT OFFICE Module

- Use an integrated software package, specifically the applications included in the Microsoft Office suite
- Demonstrate marketable skills for enhanced employment opportunities
- Describe proper computer techniques for designing and producing various types of documents
- Demonstrate the common commands & techniques used in Windows desktop
- List the meaning of basic PC acronyms like MHz, MB, KB, HD and RAM
- Use WordPad and MSWord to create various types of documents
- Create headings and titles with Word Art
- Create and format spreadsheets, including the use of mathematical formulas
- Demonstrate a working knowledge of computer database functions, including putting, processing, querying and outputting data
- Define computer terminology in definition matching quizzes
- Use the Windows Paint program to alter graphics
- Use a presentation application to create a presentation with both text and graphics
- Copy data from one MS Office application to another application in the suite
- Use e-mail and the Internet to send Word and Excel file attachments
- Demonstrate how to use the Windows Taskbar and Windows Tooltips
- Explain how copyright laws pertain to data and graphics posted on the Internet
- Take the college computer competency test after course completion
- Follow oral and written directions and complete assignments when working under time limitations

Note: Although the Microsoft Office Module is not required to successfully complete this program, students interested in pursuing free Microsoft MOS certification may want to consider completing this Microsoft Office Module at no additional cost.

System Requirements:

Windows Users:

- Windows 8, 7, XP or Vista
- 56K modem or higher
- Soundcard & Speakers
- Firefox, Chrome or Microsoft Internet Explorer

Mac OS User:

- Mac OS X or higher (in classic mode)
- 56K modem or higher
- Soundcard & Speakers
- Apple Safari

iPad Users:

- Due to Flash limitations, eLearning programs are NOT compatible with iPads

Screen Resolution:

- We recommend setting your screen resolution to 1024 x 768 pixels.

Browser Requirements:

- System will support the two latest releases of each browser. When using older versions of a browser, users risk running into problems with the course software.
- Windows Users: Mozilla Firefox, Google Chrome, Microsoft Internet Explorer
- Mac OS Users: Safari, Google Chrome, Mozilla Firefox

Suggested Plug-ins:

- Flash Player
- Real Player
- Adobe Reader
- Java