I. Introductions
   a. Chad Krawiec; Gary Geissler
   b. Speaker Background
      i. Experience, education, path of learning, knowledge base, point of view
   c. Genesis of course
      i. Why do people struggle putting it all together? What do you do, when?
      ii. How we developed the course
         1. Seek to share our knowledge and experience managing athletes with LBP
   d. Background of participants
      i. Who is in the room?

II. Present outline and format—orient the thought
   a. Key messages
      i. Course Objective – Provide interactive overview of multiple treatment components and approaches that would go into the care of an athlete with low back pain. Bring those components together for application to the athletic patient.
         1. Overview—but also provide specific detail on some techniques
         2. Explicit knowledge & Tacit knowledge
      ii. Sports Medicine/athletic patient focus
      iii. YOU can help your patient. Establish the confidence to do so.
      iv. Quality of treatment
      v. Comprehensive treatment
      vi. Support with Evidence
      vii. Stimulate thought, interest, desire to learn more—provide directions to seek out further learning and skill development
   b. Present the outline

III. Anatomy, Tissue, Mechanics
     Anatomy overview
     Brief overview. Mention of key structures. Present concepts outside of typical gross anatomy.
     a. Overview
        i. Reminders of gross structures
           1. Skeletal structure
           2. Muscle groups
        ii. Relation to surface anatomy and palpation
     b. Key points
        i. ROM available
           1. Global lumbopelvic motion
           2. Lumbar
           3. Pelvis
           4. Hip
        ii. Motion coupling concepts
        iii. Fascia
IV. Diagnosis

a. Approaches...view points...world view
   i. Orthopedic, osteopathic, chiropractic, AT, PT
      1. Clinical exam ↔ Diagnostic imaging / testing ... and the spectrum across both
      2. Disablement view—Nagi model; NCMRR model; WHO-ICF model
      3. Differences and commonalities across approaches

b. Pathogenesis-etiology
   i. Location of pathology-
      1. Impact on segmental mechanics
      2. Lumbar injury-dysfunction-pain
      3. Lumbopelvic-dysfunction-pain
      4. Complex patient
   ii. SI vs lumbar; disc vs bony vs mechanical; Hip; T spine
      1. Pain generators
      2. Impact of one area on another...ie disc pathology(may or may or may not be painful)
yields motor changes leading to mechanical pain.

c. History – thorough and complete

d. Clinical Exam
   i. Spine: function, mechanics
   ii. Hip: function, mechanics
   iii. Clinical tests
      1. What do we do
      2. Evidence base of special tests
   iv. Function, mechanics
      1. Motion assessment
         a. Specific ROM assessment
         b. Global movements –standard athletic movements, motion patterns
            i. Squat / Overhead squat / Deep squat
            ii. Lunge
            iii. SL stance
            iv. SL squat
         c. FMS, SFMA – return to this in PM

e. Diagnostics
   i. Xray, MRI, Bone scan, CT scan, Ultrasound imaging, EMG, SI injection
      1. Importance of ATs to understand-why and how imaging drives, supports/refute Dx

f. Clinical Prediction rules / Categorization
   i. Why have clinical guidelines? Variation in care
   ii. Current research
   iii. Present prediction rules...exam and treatment techniques used
Palpation – Practical Section

Goal – to get participants used to palpating, examining, and looking for tissue texture changes

- Layer palpation lesson-abridged (Greenman)
  - Expand layer palpation to back
  - Deep tissue palpation
- Tissue texture abnormalities / changes exercise
  - Adhesion, contracture, scarring
  - What does tissue density, reactivity represent?

- Role of fascia

V. Treatment --- Conceptual--Areas to target
Interactive cyclical role of all areas

  i. Treatment for the pain
     1. Methods
        a. Pharmacologic
        b. Modalities
        c. Back hygiene
        d. Taking away the pain source → tissue, function

  ii. Treatment for the tissue
     1. Methods
        a. Tissue texture
        b. Tissue health
           i. Extensibility, elasticity, pliability, stiffness, “toughness”
        c. Mechanotransduction—remodeling tissue
        d. Manual therapy
        e. Mobility
           i. Stretching
           ii. Movement

  iii. Treatment for the function
     1. Methods
        a. Mobility
        b. Stability
VI. Treatment – Practical
   a. Soft Tissue Technique *tissue pain
      i. Lecture
         1. Background
      ii. Lab
         1. Dermofascial rolling
         2. Myofascial release
         3. Soft tissue mobilization
         4. Positional release
      iii. Tip/trick
         1. Sacral myofascial release

   Treatment – Practical
   b. Joint Techniques *function, tissue
      i. Lecture
         1. Lumbar
         2. SI joint
            a. Pathogenesis and theory
               i. Evidence
            b. Approaches to treatment
               i. Osteopathic approach
                  1. Pelvic approach
                  2. Sacrum mechanics
               ii. Dontigny method
      ii. Lab
         1. Mobilization
         2. Muscle energy
            a. Innominate position
         3. Manipulation
         4. Dontigny method technique
Treatment – Practical

c. **ROM Functional Techniques** *function, tissue, pain*
   i. Lecture
      1. Quality of Movement, motion correction
         a. ROM, barrier concept
         b. Concepts from Cook, Sahrmann, Janda, others
         c. Joint by Joint approach
         d. Mobility before stability
      2. Particular focus
         a. Hip
         b. Thoracic spine
      3. Global movements
         a. Groove movement patterns
      4. Athletic movements
   ii. Lab
      1. Lumbar mobility
      2. Hip mobility
      3. Thoracic mobility
      4. Hip hinge
      5. Squat movement patterns
      6. Lunge movement patterns

Treatment – Practical
d. **Strength, Coordination, Control, Core** *function*
   i. Lecture
      1. Myths and misconceptions
      2. Current concepts in core control
         a. McGill
      3. Strength training considerations
   ii. Lab
      1. Bracing
      2. McGill exercises
      3. Chop and lift
      4. Stability vs balancing
      5. Xband, glut bands