

**Syllabus**  
**Basic Biomechanics - Understanding Horse Movement**

“Biomechanics is the science of movement of a living body, including how muscles, bones, tendons and ligaments work together to produce movement.”

Required Books:

- Horse Gaits, Balance, and Movement. Susan Harris
- The Horse’s Muscles in Motion. Sara Wyche

**Course content:**

**Section 1 – Laying the Foundation for Understanding Movement**

Reading Assignment:

Horse Gaits, Balance, and Movement:

- Chapter 1 - Why Learn About Gaits, Balance, and Movement
- Chapter 2 - Basic Structure and Anatomy
- Chapter 3 - How a Horse Moves: The Cycle of Movement

The Horse’s Muscles in Motion:

- Chapter 1 – Introducing Anatomy
- Chapter 2 – The Frame: Bones, Joints and Ligaments

Section 1 Learning Activity

Section 1 Quiz

**Section 2 – Understanding the Gaits**

Reading Assignment:

Horse Gaits, Balance, and Movement:

- Chapter 4 - The Gaits and Transitions
- Chapter 5 - Gaited Horses and Ambling Gaits
- Chapter 6 - Types of Movement
- Chapter 7 - Gait Qualities and Good Movement

Section 2 Learning Activity

Section 2 Quiz

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**Section 3 – Muscles and Movement**

Reading Assignment:

Horse Gaits, Balance, and Movement:

- Chapter 8 - Balance and Movement
- Chapter 9 - Flexion, Bending, and Straightness
- Chapter 10 - Lateral Movements

The Horse's Muscles in Motion:

- Chapter 3 – The Driving Forces: Muscles, pgs 36-73

Section 3 Learning Activity

Section 3 Quiz

**Section 4 – Recognizing Limitations in Movement**

Reading Assignment:

Horse Gaits, Balance, and Movement:

- Chapter 11 - Faulty Movement
- Chapter 12 - Conformation and Movement

The Horse's Muscles in Motion:

- Chapter 3 – The Driving Forces: Muscles, pgs 74-114

Watch course videos on different types of movement

Section 4 Learning Activity

Section 4 Quiz

**Section 5 - Rider Effects on Movement**

Reading Assignment:

Horse Gaits, Balance, and Movement:

- Chapter 13 - Shoeing and Movement
- Chapter 14 - The Effect of the Rider on the Horse's Movement
- Chapter 15 - Getting the Best Movement from Your Horse

Section 5 Learning Activity

Section 5 Quiz