

BIOMECHANICAL ANALYSIS ASSIGNMENT

The purpose of this assessment is to assess candidates' evolving skills in understanding learner development and differences, demonstrating and applying content knowledge, and planning for assessment and instruction. CAEP and InTASC standards guided the development of this rubric.

The rubric is primarily used by the faculty who teach methodology and field experience courses and college supervisors who evaluate student teaching. Portions of the lesson plan are introduced at designated stages in the programs, culminating in successful completion of the entire plan. Candidates are expected to achieve at the level 4 of performance at each point of evaluation.

Data from these rubrics are used for every activity and assignment as they work through the content related to the teaching and planning process for instruction. There are courses such PER 231 (Introduction to Physical Education), PER 340 (Physiology of Exercise) PER 327 (Motor Learning and Development) PER 310 (Anatomy for Physical Education and Sport) and PER 331 (Introduction to Kinesiology/Biomechanics) that are the progression courses that must be completed successfully before moving on to the methods courses for teaching Physical Education. The courses that serve as the methods courses for Physical Education are PER 223 (Elementary Games) and PER 339 (Methods of Teaching Physical Education).

As the students are progressing through the core courses and method courses there is continuous evaluation of the courses and the program in order to discuss and evaluate candidates' strengths and needs in planning for instruction and to use the findings of this evaluation in the examination and adaptation of program curricula to improve areas of candidate need.



Attachment # 1 (Karate Side Kick)

An illustration of a karate side. For the purpose of this assignment, you will create your own biomechanical analysis of the movements. You must include the following:

- A description of the actions of 10 designated body parts in chart form (activity, purpose, muscles and conditioning program)
(head, right shoulder, left shoulder, right hand, left hand, trunk/hips, right knee, left knee, right foot and left foot)
- A description of the purposes of those designated actions for the body parts
- A designation of the muscles initiating the action for the designated body parts
- Create a conditioning program for those muscles involved in the designated movements

The following elements need to be included in your biomechanical analysis:

- ✓ A creative and visual image that clearly illustrates your topic
- ✓ Use of the appropriate terminology, actions, muscles involved, sequence of the muscles in unison
- ✓ The biomechanical analysis will highlight the phases as you teach the activity to others

Biomechanical Analysis Rubric

Expectations	Level 1	Level 2	Level 3	Level 4
<p>Knowledge/Understanding: Demonstrates knowledge of key facts, terms, and actions from the biomechanical analysis.</p> <p>Demonstrates an understanding of content from the activity (including specific muscles, motions and coordination of body movements as well as the phases of teaching)</p>	<p>Demonstrates <u>limited</u> knowledge of key facts, terms, and actions</p> <p>Demonstrates limited understanding of content from the biomechanical analysis</p>	<p>Demonstrates <u>some</u> knowledge of key facts, terms, and actions</p> <p>Demonstrates some understanding of content from the biomechanical analysis</p>	<p>Demonstrates <u>considerable</u> knowledge of key facts, terms, and actions</p> <p>Demonstrates considerable understanding of content from the biomechanical analysis</p>	<p>Demonstrates <u>thorough</u> knowledge of key facts, terms, and actions</p> <p>Demonstrates thorough understanding of content from the Biomechanical analysis</p>
<p>Thinking /Inquiry: Use critical/creative thinking skills.</p> <p>Able to think critically and creatively in order to analyze a specific action</p>	<p>Analyzes a specific action with limited effectiveness and limited creativity</p>	<p>Analyzes a specific action with some effectiveness and some creativity</p>	<p>Analyzes a specific action with considerable effectiveness and considerable creativity</p>	<p>Analyzes a specific action with a high degree of effectiveness and a high degree of creativity</p>
<p>Communication: Expression and organization of ideas and information in visual form.</p> <p>Able to communicate the message from the action to others</p>	<p>Communicates the message from the action with limited effectiveness</p>	<p>Communicates the message from the action with some effectiveness</p>	<p>Communicates the message from the with considerable effectiveness</p>	<p>Communicates the message from the action with a high degree of effectiveness</p>
<p>Application: Transfer of knowledge and skills.</p> <p>Able to transfer a specific theme from the action. Able to make the connection between the actions and the significance of the muscles and sequence of the muscles involved to others</p>	<p>Transfers specific message of the analysis with limited effectiveness</p>	<p>Transfers specific message of the analysis with some effectiveness</p>	<p>Transfers specific message of the analysis with considerable effectiveness</p>	<p>Transfers specific message of the analysis with a high degree of effectiveness</p>

