

BUSH GRANT FINAL REPORT
PE 323: Biomechanics
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Throughout the biomechanics course last spring (2004), the expected outcomes of using the motion analysis software were achieved. The class did a project at the end of the semester to help them use the analysis software in their own way. The groups in class did the following topics:

1. **Examined the differences between a successful high jump and an unsuccessful attempt:** they broke down the stages of the jump, analyzed joint angles of both jumps, discover the skill differences, and reported back to both jumpers.
2. **Analyzed a baseball hitter's swing on an inside and outside pitch:** they used an overlay method of both video segments to see the differences and similarities of joint angles and positioning between the two swings, gave hitter feedback on things done well and some suggestions for improvement.
3. **Analyzed a softball hitter's swing on a tee that was in the same spot to determine differences in a good vs. poor swing:** used overlay method, split screen, and joint angles to observe subtle differences, and gave feedback to athlete.
4. **Examined the differences of two different styles of tennis serves:** used the overlay method, split screen, flip screen, and angles to show the differences on serve styles based on their body structure and style they play the game.
5. **Analyzed an athlete performing a barbell squat lift to determine technique's safety:** used split screen and joint angles to determine if the athlete's technique was injury safe or if she would be susceptible to injury.
6. **Analyzed the gait of running on flat vs. incline surfaces:** looked at split screen, overlay, and joint angles to compare the two and see if training on incline treadmills helps enhance joint angles and running mechanics.

Students presented their projects through power point presentations to the rest of the class and were to report their findings to their subjects as well. I was very impressed with the students work considering it took awhile to get the software up and running. The students appeared to learn the software quickly but I'm looking forward to this upcoming semester because we will have the software for the entire semester and can go through its tools more in depth. Students really responded with a great amount of interest to the software.