Title: Biomechanics of Tennis

Biomechanical Principles Discussed in this Presentation
Functional Anatomy Related to Grips (grips, muscle force production)
Muscle Mechanics (stretch shortening cycle during serve)
Fluid dynamics (Magnus force)
Angular Kinematics ($v_t = \omega r$) spin
Linear Kinetics (friction, impulse [impact], effects of racquet mass, centre of percussion, coefficient of restitution racquet/string)
Angular Kinetics (moment of inertia, imparting spin)

Introduction
Each group should start with a brief explanation of the problem and/or purpose of the presentation. This presentation is designed to emphasise the need of the tennis coach to understand biomechanical principles that relate to how the game is played today.

Main Presentation
List the sequence of the talk (which may be in relation to the biomechanical principles listed above).
- Review of friction and coefficient of restitution.
- Discussion on the need to understand functional anatomy and muscle mechanics.
- The main emphasis of the presentation will focus spin production with various strokes and the subsequent
  - movement of the ball through the air and
  - its subsequent contact with the ground.
- The effect of different playing surfaces will be looked at.
- The mechanical behaviour of racquets will be introduced.

Summary
Briefly Summarize your presentation prior to the question period.
The presentation summary will briefly acknowledge other factors that are important to the tennis coach. These would include knowledge of rules, tactics, skill acquisition, physical demands of the sport and sport specific physical conditioning programs. However the summary would emphasise the integral role biomechanics plays in a full understanding of the sport of tennis.

One of my profs explained the sequence of a lecture/presentation/essay etc as:

“You tell them what you are going to tell them (introduction), then you tell them (main presentation) and then you tell them what you told them (summary).” Brian Woods, Exeter University, 1978.