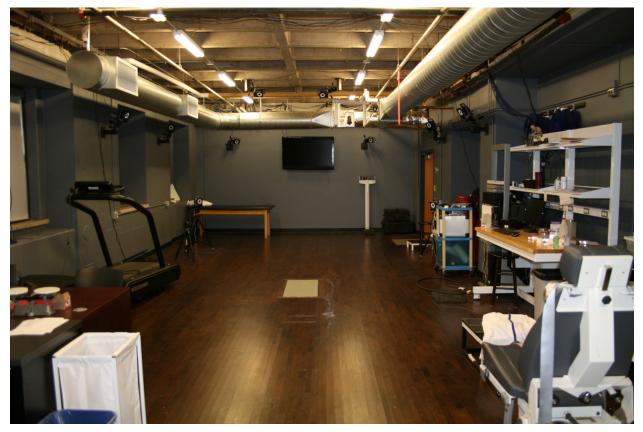# Biomechanics/ Motion Analysis Laboratory

Cramer Hall 004B

The 1,200 square foot Biomechanics/ Motion Analysis Laboratory opened in the fall of 2011. This laboratory is used for teaching and research. The lab is equipment with Vicon MX systems the most advanced optical motion capture system available. Advanced undergraduate and doctoral courses utilize this state-of-the-art equipped laboratory for students to learn advanced techniques in biomechanical (kinematics and kinetics) and physiological assessments of human performance. Some graduate students may call this laboratory "home" as the laboratory houses five student workstations.

Research conducted in the laboratory has focused on the assessment of various rehabilitation modalities, gait training for individuals with Parkinson's disease, fall prediction, biomechanics of newly developed AFO, assessing risk of ACL injury, and performance testing for Marquette Athletics. Plans include full running clinic in collaboration with Dr. Carolyn Smith. Opportunities for future research and collaboration are endless. Select research instruments include:

- 14 camera digital Vicon MX motion analysis system
- 16 channel Delsys Trigno wireless EMG/ accelerometer system
- Two 600cm x 600cm AMTI force platforms flush mounted in the floor
- Biodex System 2 isokinetic dynamometer
- 50" monitor display
- Woodway treadmills (including non-motorized Curve)
- Biodex 4
- Noraxon SciFit (with EMG, IMUs, and pressure sensitive treadmill)