1023-57-1527 **Feng Luo*** (fluo@math.rutgers.edu), Dept. of Math, Rutgers University, Piscataway, NJ 08854. Some applications of the cosine law to surface geometry and 3-manifolds.

Derivatives of the cosine laws for triangles in spaces of constant curvature take the same form. We call these identities the derivative cosine laws. Applications of these identities to geometry of polyhedral surfaces and 3-manifolds will be discussed. (Received September 26, 2006)