

**SURVEYING ENGINEERING
FERRIS STATE UNIVERSITY**

SURE 452 - Geodesy 1

Winter 2003/04

Extra Credit #1

T. Vincenty published a paper entitled “Direct and Inverse Solution of Geodesics on the Ellipsoid with Application of Nested Equations” in **Survey Review**. A copy of this paper is available at the National Geodetic Survey (NGS) web site http://www.ngs.noaa.gov/PUBS_LIB/inverse.pdf. This paper is the basis for the programs FORWARD and INVERSE that are also available at the NGS web site. Write a program using either MathCad or Visual Basic to solve the direct and inverse problem as presented by Vincenty. Use the stations **Hoodport** and **Detroit 1** that were employed in homework #2.