# Three Rivers Community College

Survey I Lab – CIV K 151
Syllabus

Fall 2012
Instructor; Donald W. Gerwick, P.E., L.S.

Class Location – B 107;
Time: Monday (Lab) 5:00 pm – 7:45

Office: 205W – 205.5
Office Hours: M, 4:00- 4:45, T 4:00 – 5:30; W 4:00 – 4:45
Additional Days and Times by Appointment are Available

Text; **Elementary Surveying, An Introduction to Geomatics**, 13th edition
Charles Ghilani & Paul R. Wolf

Email dgerwick@trcc.commnet.edu or don@gerwickmereen.com

This course supports the goals and material of CIV 150 by introducing student to the proper use and care of surveying equipment used in making linear and angular measurements, including tapes, transits, theodolites, levels and total stations. A variety of field related labs will be conducted. Students will also prepare lab reports.

**Required for Course,** text listed above and a basic calculator with trigonometric functions. Survey Field Book for Labs, engineers scale.

The schedule of labs is as follows with estimated amount of time allotted to each lab in weeks is noted in parentheses. As most of the labs are field (i.e. outside) related days of inclement weather will be utilized in preparation of math related components of the lab. In the unlikely event that there are no lost days due to weather, computational or other related subjects will be covered.

Lab 1 Horizontal Measurements (1 week)
Students will pace, tape and chain a variety of distances

Lab 2 Instrument Set Ups (1 week)
Students will learn to set up instruments on tripods over a fixed point

Lab 3 Differential Level Loop (2 weeks)
Students will run and complete a differential level loop

Lab 4 Total Station Introduction (2 weeks)

Students will be introduced to Total Station instruments and practice taking distance and turning angles.

Lab 5 Trigonometric Leveling (1 week)
Students will measure a variety of elevation points using trigonometric leveling methods.

Lab 6 Field Traverse (approximately 3 weeks)
Students will occupy a closed traverse and measure all distances and angles of the traverse.

Lab 7 Field Traverse Computations – Inside Labs (2 weeks)
Students will mathematically close and balance the traverse that they measured in the field.

Lab 8 Traverse Lab Report; the class will devote no more than one lab to coordinating and organizing data for their final lab report.

Final Traverse Report Due the final lab period of the semester.

**Final Grade** – The student's final Lab grade will be based on the weighted criteria;

Lab Attendance – 25%
As Labs are for the development of various surveying skills students attendance is necessary. Attendance for labs will be taken during the first 15 minutes of lab sessions.

Lab Field Books – 25%
Maintaining a neat, well documented field book is a fundamental requirement in surveying. The use of data collectors has simplified the process but has not eliminated the legal need for accurate documentation of field surveys.

Lab Reports – 25%

Final Traverse Report – 25%

**Lab Attendance** is expected, and a portion of the assigned lab grade will be based on attendance. A record of attendance will be kept by the instructor.

**Lab Policies -** Cell phones brought to lab shall be off and out of site (no texting). Language and behavior that is disrespectful, or disruptive, to others is unacceptable; Students should refer to their Student Handbook for examples of such behavior as well additional school policies.

**Academic Integrity** – Data compiled in the lab as well as results may be generated by each "field crew". Individual lab reports however will be the product of each individual student. Using the work of others without proper credit (plagiarism) for assignments, or

other forms of academic dishonesty, as defined by the Student Handbook, is unacceptable. If, after evaluation of the potential infraction(s), consistent with the Student Handbook, a grade of "0" for the assignment may be assigned.

**Disabilities** – If you have a visible or hidden disability that may require classroom or test taking modifications you are encouraged to contact Student Services for assessment.