J. Sargeant Reynolds Community College
Course Content Summary

Course Prefix and Number: CIV 265 **Credits:** 3

Course Title: Curves and Earthwork

Course Description: Studies computations of simple, compound, and transition curves, grades, and vertical curves; earthwork and haul quantities. Prerequisite: CIV 172 or equivalent. Lecture 3 hours per week.

General Course Purpose: To indoctrinate the student to non-linear earthwork design analysis.

Course Prerequisites and Co-requisites:
Prerequisite: CIV 172 or equivalent

Course Objectives:
Upon completing the course, the student will be able to
a. Use basic procedures in determining simple curve components;
b. Apply simple curve procedures with compound and reverse horizontal curves;
c. Develop horizontal alignment with spirals;
d. Solve practical horizontal alignment problems;
e. Use basic procedures in determining parabolic vertical curves;
f. Apply vertical curve procedures to simple and compound vertical curve problems;
g. Solve practical vertical alignment problems with constraints;
h. Apply basic procedures in earthwork computations and mass balancing; and
i. Use practical application for earthwork computation and mass balancing procedures.

Major Topics to Be Included:
a. Simple horizontal curves (highway and railroad definition)
b. Compound horizontal curves
c. Reverse curves
d. Vertical parabolic curves (simple and compound)
e. Spiral and super elevation
f. Earthwork considerations and computations
g. Special problems

Effective Date of Course Content Summary: August, 2008