

**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. Lecture 3 hours per week.

**General Course Purpose**

To indoctrinate the student to non-linear earthwork design analysis.

**Course Prerequisites/Corequisites** (Entry-level competencies **required** for enrollment)

Prerequisites: MTH 115 and CIV 160

**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
- 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