Prepared by the Department of Business
Date of Departmental Approval: October 7, 2013
Date Approved by Curriculum and Programs: October 23, 2013 Effective: Spring 2014

1. **Course Number: CON100**
   Course Title: Quantitative Skills for Construction

2. **Description:** This course applies fundamental mathematical skills and critical thinking to solve basic construction problems. A review of numbers, fractions, ratios, angles and triangles, weights, measures and conversions, and formulas for calculating area and volume will be included. Problem solving uses cases that introduce concepts of the estimating process for selected parts of a construction project including lumber pricing, footings, foundations, girders, sill plates, bridging, floor joists, flooring, wall framing, and roofing.

3. **Student Learning Outcomes (instructional objectives: intellectual skills):**
   Upon successful completion of this course, students are able to do the following:
   - Use all operations on fractions and decimals that are common to the construction industry
   - Convert fractions to decimals
   - Calculate area volume or various shapes
   - Convert measurements from cubic feet to cubic yards
   - Measure the volume of concrete footings, slabs, walls, and columns
   - Calculate board feet
   - Calculate and measure for basic construction projects in wood and concrete

4. **Credits:** 2 credits

5. **Satisfies General Education Requirement:** No

6. **Prerequisite:** (MAT030 or MAT035) or satisfactory basic skills assessment score

7. **Semesters Offered:** Fall, Summer

8. **Suggested General Guidelines for Evaluation:** Examinations, problem sets, and a project that assesses student outcomes as stated in #3 above.

9. **General Topical Outline (Optional):**
   - Whole numbers
   - Fractions
   - Decimal Fractions
   - Weights, Measure, and Conversions
   - Ratio and Proportion
   - Percents
   - Angles and Triangles
   - Areas and Perimeters
   - Volume and Surface Area of Solids
   - The Metric system
   - Board Measure
   - Lumber Pricing
   - Concrete: Footings, Foundations, and Slabs
   - Walls and Roofs
   - Stairs and Coverings
   - Introduction to the Estimating Process