**SOUTH SUBURBAN COLLEGE**

**SOUTH HOLLAND, IL 60473**

**COURSE OUTLINE GUIDE**

**ICCB Course Name and Number** MFG 102 **Semester Hours:** 2

**IAI Number:**

**Curriculum:** MFG.BASIC

**Required:** Yes **Elective:** **Replacement for:**

**Contact:** Becky Admave 708-210-5763 badmave@ssc.edu **Date Submitted:** March 2014

**Course Title: SSC Catalog/ICCB: (36 characters)** Manufacturing Math

**Contact Hrs: Lecture -**  2 **Lab -**  0 **Intern -**  0

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**Description of course to appear in catalog: (Include prerequisites, lab fee, etc.)**

This course is designed for students in a manufacturing environment. The primary goal of this course is to help individuals acquire a solid foundation in the basic skills of math that relate to industrial manufacturing. Reviews arithmetic, introduces basic algebraic and right triangle trigonometric techniques. This course is not transferable, does not satisfy the prerequisite for any other mathematics course, and does not satisfy any general education requirements.

**Prerequisite:  Mth 095 with a grade of C or above OR qualifying score on the Placement Test. Lab Fee $0**

**Description for Schedule: (two sentence maximum)**

This course is designed for students in a manufacturing, with the primary goal to help individuals acquire a solid foundation in the basic skills of math that relate to industrial manufacturing. Reviews arithmetic, introduces basic algebraic and right triangle trigonometric techniques.

* **Pre-requisites:** Mth 095 with a grade of C or above OR qualifying score on the

Placement Test.

* **Lab Fee:** $0
* **Textbook(s) and other required materials:** (include author, title, publisher, etc.)

Martin, Jack and Mary Sarich, *Pre-Apprentice Training: A Test Preparation Manual for the Skilled Trades.* Jack Martin and Associates, 2012. ISBN 0-9649530-1-3

Martin, Jack and Nemenya, Sharon, *Pre-Apprentice Training Math Supplement*,
Jack Martin and Associates, 2012 ISBN 0-9649530-2-1

**General objectives of the course:** (8-10 measurable objectives preferred)

At the conclusion of the course, the student will be able to:

1. Perform the four basic arithmetic operations on whole numbers, fractions, mixed numbers, and decimals.
2. Find prime factors and the LCM of numbers.
3. Convert percents to decimal and fractional notation.
4. Calculate powers and roots.
5. Perform basic mathematical functions using a scientific calculator.
6. Convert measurements between the metric system and the U.S. Customary System.
7. Change measurements within the metric system and the U.S. Customary System.
8. Perform calculations with significant digits.
9. Round numbers correctly.
10. Perform addition, subtraction, multiplication, division and order of operations on signed numbers.
11. Simplify algebraic expressions and formulas.
12. Apply laws of exponents to the simplification of expressions.
13. Perform addition, subtraction, multiplication and division on monomials and polynomials.
14. Calculate perimeter, area, and volume of basic geometric figures.
15. Solve simple and literal equations and inequalities.
16. Write and solve equations from applied problems.
17. Factor polynomials including: special products, common factors, difference of two squares and trinomials.

**Other Aims of this Course**:

**Topical Outline: (may be on a weekly basis)**

1. Common Fractions, Decimal Fractions, and Percentages.
2. Linear Measurement, Customary (English) and Metric..
3. Fundamentals of Algebra.
4. Fundamentals of Plane Geometry
5. Geometric Figures: Areas and Volumes

**Methods of presentation:** (Include out-of-class requirements such as field trips, etc.)

Lecture, Demonstration, Problem solving, small groups and discussion

**Methods of evaluation:**

Tests, quizzes, and student presentations

**Course Requirements**:

1. **Materials**:

2. **Space Needs**: Classroom

3. **Library Holding Needs**: Textbooks

4. **Instructors:** Does certification criteria require that a full-time faculty member be employed for the program to be accredited? NO.

 If yes, would the College need to hire a full-time faculty member for this purpose or is there one already in place.

5. **Impact on Enrollment:** Estimate the impact this course will have on enrollment in other courses in the same division or group requirement. Enrollments should complement each other.

**6. Statement of Possible Conflict or Overlap:** Indicate statements of agreement or disagreement of other faculty members or division directors concerning subject matter content of course and its relationship with existing course.

**7. Are you considering this course for the General Education Requirements?**

**Yes []** **No [X]**

 **If yes, give rationale why and in what grouping.**

**8. Class Capacity:**What is the expected class capacity for this course? 38

If the capacity is different than standard contractual capacities of 38 lectures and 24 lab size classes, please submit supporting documentation and a rationale for the proposed variation in class size.

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9. **Outcomes Assessment Component:** Provide details of the assessment measures that will be used in this course.

80% of students will successfully complete the course.

10. **General Education Objectives: G1, G4, T1, C1, M1, M2**

This workforce solution was funded by a grant awarded by the U.S. Department of Labor’s Employment and Training Administration. The solution was created by the grantee and does not necessarily reflect the official position of the U.S. Department of Labor. The Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timelines, usefulness, adequacy, continued availability, or ownership. This solution is copyrighted by the institution that created it. Internal use, by an organization and/or personal use by an individual for  non-commercial purposes, is permissible. All other uses require the prior authorization of the copyright holder.