I. INTRODUCTION

NCBO Intermediate Algebra Topics is designed to help students successfully complete their freshman level mathematics in one term. This is accomplished through developmental education interventions that use innovative learning approaches that, compared to traditional lecture-only classes, more effectively and efficiently prepare students to advance. The NCBO specifically focuses on the concepts of Intermediate Algebra necessary for the student to complete their freshman level mathematics concurrently to include relations and functions, inequalities, algebraic expressions and equations (absolute value, polynomial, radical, rational), with a special emphasis on linear and quadratic expressions and equations.

This course is available to students who need additional assistance to be successful in a freshman level mathematics course. Students must be enrolled in a specific credit bearing mathematics course concurrently.

II. LEARNING OUTCOMES

Upon successful completion of this course, NCBO Intermediate Algebra Topics, the student will be able to:

A. Define, represent, and perform operations on real and complex numbers. (F1, F2, F8)
B. Recognize, understand, and analyze features of a function. (F3, F9)
C. Recognize and use algebraic (field) properties, concepts, procedures (including factoring), and algorithms to combine, transform, and evaluate absolute value, polynomial, radical, and rational expressions. (F3, F8, F9)
D. Identify, graph and solve absolute value, polynomial, radical, and rational equations. (F3, F9, F10)
E. Identify, graph and solve absolute value and linear inequalities. (F3, F9, F10)
F. Model, interpret and justify mathematical ideas and concepts using multiple representations. (F1, F2, F4, F5, F8, F9, F10, F12)
G. Connect and use multiple strands of mathematics in situations and problems, as well as in the study of other disciplines. (F3, F4, F5, F7, F8, F9, F10, F11, F12)
H. Use electronic and other media, such as the computer and DVD, to reinforce and supplement the learning process. (F1, F2, F3, F6)
I. Demonstrate critical thinking, communication, and empirical and quantitative skills. (F1, F3, F4, F7, F9)

Some learning outcomes are followed by letters and numbers; i.e., C9 or F11. These refer to SCANS foundations skills (F) and workplace competencies (C). View a chart showing these skills at http://www.ctcd.edu/scans. For more on the (Labor) Secretary's Commission on Achieving Necessary Skills, or SCANS, go to the U.S. Department of Labor site at http://wdr.doleta.gov/SCANS/.

III. INSTRUCTIONAL MATERIALS/RESOURCES

There will be no additional materials/resources required for purchase for this course outside of the requirements for the credit bearing mathematics course. The materials needed for the credit bearing mathematics course can be found at the following link:

http://www.ctcd.edu/im/im_main.asp

IV. COURSE REQUIREMENTS

A. The student is required to attend the NCBO TAD computer lab weekly for just-in-time Developmental Mathematics concepts needed for freshman level mathematics.

B. The student is required to complete supplemental homework and quizzes outside of the freshman level mathematics course.

C. Student will be required to attend the NCBO TAD computer lab (B118 Rm 15) for 2 hours a week. The NCBO TAD Lab is open during CTC normal business hours.

V. EXAMINATIONS AND ASSIGNMENTS

A. All assignments are available in the My Labs product.

B. Class exams are given in the freshman level mathematics classes.

VI. SEMESTER GRADE COMPUTATIONS

This is a Pass/Fail course based on completion of the assignments and attendance in the computer lab.
VII. NOTES AND ADDITIONAL INSTRUCTIONS

A. **Withdrawal from Course:** It is the student's responsibility to officially withdraw from a class if circumstances prevent attendance. Any student who desires to, or must, officially withdraw from a course after the first scheduled class meeting must file an Application for Withdrawal or Application for Refund. The withdrawal form must be signed by the student.

An Application for Withdrawal will be accepted at any time prior to Friday of the 6th week of classes during the 8 week fall and spring semesters. The deadline for sessions of other lengths is as follows:

- **8 week session** Friday of the 6th week
- **5 week session** Friday of the 3rd week

The equivalent date (75% of the semester) will be used for sessions of other lengths. The specific last day to withdraw is published each semester in the Schedule Bulletin.

Students who officially withdraw will receive the grade of "W" provided their attendance and academic performance are satisfactory at the time of official withdrawal. Students must file a withdrawal application with the college before they may be considered for withdrawal.

Before withdrawing from any developmental course, the student should seek the advice of Guidance and Counseling so that the student does not initiate an action that would inadvertently have a negative repercussion on his/her enrollment or Financial Aid.

B. **Cellular Phones and Pagers:** Cellular phones and pagers must be turned off while the student is in the classroom or laboratory.

C. **American’s With Disabilities Act (ADA):** Disability Support Services provide services to students who have appropriate documentation of a disability. Students requiring accommodations for class are responsible for contacting the Office of Disability Support Services (DSS) located on the central campus. This service is available to all students, regardless of location. Explore the website at [www.ctcd.edu/disability-support](http://www.ctcd.edu/disability-support) for further information. Reasonable accommodations will be given in accordance with the federal and state laws through the DSS office.

D. **Civility:** Individuals are expected to be cognizant of what a constructive educational experience is and respectful of those participating in a learning environment. Failure to do so can result in disciplinary action up to and including expulsion.
E. **Office Hours:** Full-time instructors post their office hours outside their office doors. Part-time instructors may be available by appointment. Please feel free to see your instructor should you find yourself having difficulties with this course. The instructor of record will also have assigned times to be in the computer lab for individual assistance.

VIII. **COURSE OUTLINE**

Concepts covered in this NCBO are based on the Developmental topics required to be successful in a freshman level mathematics course. The concepts will be presented in a Just-In-Time computer aided environment – concepts will be taught as needed to complete the corresponding freshman level mathematics material based on individual student’s mastery of outcomes. Topics to be covered include:

- Functions : Linear, Absolute Value, Polynomial, Radical and Rational
- Graphing (to include Inequalities)
- Exponent Rules
- Factoring
- Quadratic Formula (radicals, solving concepts)
- Systems of Equations
- Problem Solving