Course Outline for NMAT 202C

JUST IN TIME CONCURRENT SUPPORT FOR MATHEMATICS

Effective: Fall 2019

I. CATALOG DESCRIPTION:
NMAT 202C — Noncredit

This course is just-in-time concurrent support for students enrolled in a first-level transfer course, such as Statistics, College Algebra, Trigonometry, Business Calculus, Mathematics for Liberal Arts, and Finite Mathematics. The support course is noncredit, open entry/open exit. The content will prepare students for the rigor the transfer math course by teaching learning skills necessary to succeed in college courses as well as review of relevant basic and secondary education prerequisite algebraic and geometric concepts, and more in-depth investigation of core concepts to their concurrent math course. The course design is to meet the needs of a variety of students, such as students who desire formal, regular ongoing learning supports, students wishing self-place into transfer-level mathematics courses as defined by AB 705, and students who are repeating the course for the second or third time. The support course includes a review of basic and secondary level math relevant to their college-level course, provides study strategies to promote understanding and improve performance, and more in-depth investigation of core concepts that are difficult for students to master and learning skills such as growth mindset, brain research, time management, study skills, test taking, math anxiety and more.

Corequisite
MATH 30 - College Algebra for STEM
or

MATH 39 - Trigonometry
or

MATH 34 - Calculus for Business and Social Sciences
or

MATH 40 - Statistics and Probability
or

MATH 47 - Mathematics for Liberal Arts
or

MATH 33 - Finite Mathematics

Grading Methods:
Pass/No Pass

Discipline:
• Mathematics

Noncredit Category
C - Elementary and Secondary Basic Skills

	MIN	**MAX**
Total Noncredit Hours:	1.00	54.00

II. PREREQUISITE AND/OR ADVISORY SKILLS:

III. MEASURABLE OBJECTIVES:
Upon completion of this course, the student should be able to:
   A. Use a problem solving process to read mathematical problems with understanding, identify relevant information, define variables, execute relevant procedures and interpret results in the context of the problem.
   B. Apply relevant prerequisite math concepts at a higher level.
   C. Organize and justify their mathematical thinking on relevant math problems.
   D. Use effective strategies to monitor their own understanding of math concepts.
   E. Use learning strategies to identify and communicate in their own words key mathematical concepts.

IV. CONTENT:
   A. Successfully solve context problems by learning how to:
       1. Read context problems with understanding

      2. Identify relevant information.
      3. Define variables.
      4. Execute relevant procedures.
      5. Interpret results in the context of the problem.
  B. Review Algebraic and Geometric concepts and practice completing many math problems.
  C. Learn and apply effective strategies to monitor understanding.
      1. Create summary sheets and/or practice exams before assessments.
      2. Correct any assessments and practice explaining the concepts to someone else.
  D. Practice organizing their thinking and justifying each mathematical steps while simplifying or solving math problems.
  E. Regular small group workshops will focus on identifying and mastering key mathematical learning objectives.
      1. Students will learn how to communicate their thinking on math problems.
      2. Students will learn how to synthesize big ideas in the material.

V. METHODS OF INSTRUCTION:
  A. **Discussion** - Instructor should allow time during workshops to discuss what main algebraic and geometric concepts were covered in their math course, what the big ideas are, citing their classroom notes and mathematical textbook for evidence.
  B. **Demonstration** - Instructor should model examples of what a mathematician should do when approaching the math content. Students should then practice applying those strategies to additional problems.
  C. **Directed Study** - Class will spend time in directed math content activities, with students practicing applying concepts individually, in workshops, or in small groups.
  D. **Lecture** - Lecture will only be in small, relevant amounts, with specific skills-building goal in mind and time left for students to practice applying the demonstrated skill described.
  E. **Individualized Instruction** - Instructor will provide individualized instruction as often as possible.
  F. **Audio-visual Activity** - Personalized learning supports and practice on prerequisite material.

VI. TYPICAL ASSIGNMENTS:
  A. In Class
      1. Workshops: Review of relevant basic and secondary education prerequisiste algebraic and geometric concepts, and more in-depth investigation of core concepts in their concurrent math course.
         a. Students will regularly participate in workshops
         b. Students will then complete worksheets on the material to test for understanding.
      2. Students will read, watch videos, practice problems, and study material based on their personalized learning goals.
      3. Work independently and in collaboration with other students, supported by the instructor and/or tutors to master the math concepts.
      4. Complete assignments around such topics as Growth Mindset, Brain Research, Financial Aid, Time Management skills, Test Taking Strategies, Career Development, and dealing with Math Anxiety.
      5. Monitor their progress in their concurrent math course by utilizing study skills learned such as correcting graded assignments, practicing time management, etc.
  B. Homework - students will be encouraged to continue work outside of class each day towards the following:
      1. Mastery of key mathematical concepts
      2. Developing study and life skills that will improve the student's likelihood of succeeding in their academic and career goals.

VII. EVALUATION:
Methods/Frequency

  A. Class Participation
      Attendance will be recorded hourly
  B. Class Work
      Regular assignments and workshops on learning skills and mastery of relevant mathematical concepts
  C. Home Work
      Students will monitor their progress under the supervision of instructors and/or tutors by completing daily homework

VIII. TYPICAL TEXTS:
  1. Free and open-source online resources covering relevant mathematics topics
  2. Handouts and materials provided by instructors and/or guest lecturers on appropriate elementary algebra math concepts, Growth Mindset, Brain Research, study skills, time management, Career Development and/or test and math anxiety.

IX. OTHER MATERIALS REQUIRED OF STUDENTS: