



NEW JERSEY CENTER  
FOR TEACHING & LEARNING

## **MATH-6411: MS Mathematics Praxis Preparation**

**Course Credit:** 2.0 NJCTL credits

### **Dates & Times:**

This is a 2-credit, self-paced course, covering 6 modules of content. The exact number of hours that you can expect to spend on each module will vary based upon the module coursework, as well as your study style and preferences. You should plan to spend 12-20 hours per module, completing the module slides, readings, short answer assignments, labs, mastery exercises, practice problems, and module exams.

**Graduate Student Handbook:** <https://njctl.org/graduate-handbook/>

### **COURSE DESCRIPTION:**

This capstone course is for teachers to learn further topics from the student course PMI Algebra II and how to teach those topics to students, while providing teachers a greater depth of understanding to support their teaching of PMI Middle School Mathematics. This capstone course also serves as a review for the Praxis Middle School Mathematics Test.

### **STUDENT LEARNING OUTCOMES:**

Upon completion of the course, the student will be able to:

1. Apply the basic principles of mathematics in the areas of the real number system, ratios, proportions, percents, expressions, solving equations & inequalities, function analysis, graphing functions, and probability & statistics
2. Apply the basic principles of Euclidean Geometry in the areas of the points, lines, planes, angles, parallel lines, triangles, similar triangles, trigonometry, congruent triangles, circles, analytic geometry, transformations, quadrilaterals, area of figures, surface area, volume, and probability.
3. Apply mathematical tools commonly used in algebra including arithmetic operations, inverse operations, problem solving, function analysis, probability, and data analysis.
4. Identify, understand, and communicate the elements, representations, and models of equations and functions to solve word problems.
5. Examine, investigate, and assess the relationships between various mathematical models and their variables.
6. Apply student-centered pedagogy to teach mathematics to students.

## TEXTS, READINGS, INSTRUCTIONAL RESOURCES

### Required Texts:

- MS Mathematics Praxis Preparation uses free, online textbooks that are available within the course modules as PDFs. Readings are derived from:
  - <https://njctl.org/courses/math/pre-algebra/>
  - <https://njctl.org/courses/math/algebra-i/>
  - <https://njctl.org/courses/math/geometry/>
  - <https://njctl.org/courses/math/algebra-ii/>

### Recommended Readings:

Related articles within short answer assignments.

### COURSE REQUIREMENTS:

Consistent attendance in your online courses is essential for your success. Failure to verify your attendance within the first 7 days of this course may result in your withdrawal. If for some reason you would like to drop a course, please contact the Dean of Students.

Online classes have assignments and participation requirements just like on-campus classes. Budget your time carefully. If you are having technical problems, problems with your assignments, or other problems that are impeding your progress, let your instructor know as soon as possible.

### GRADE DISTRIBUTION AND SCALE:

In order to receive a Passing grade, the participant must complete the following course requirements: all short answer assignments, mastery exercises, labs, exams, and the reflection paper outlined in the *Assignments* section of the Class Schedule (below).

#### Grade Distribution:

Module Exams	70%
Final Exam	20%
Labs	2%
Short Answer Assignments	2%
Mastery Exercises	4%
Reflection Paper	2%

#### Grade Scale:

A	93 – 100
A-	90 – 92
B+	86 – 89
B	83 – 86
B-	80 – 82
C+	77 – 79
C	73 – 76
C-	70 – 72

D	60.0 – 69.9
F	59.9 or below

**ACADEMIC STANDING:**

NJCTL has established standards for academic good standing within a student’s academic program. Students enrolled in any NJCTL online course must receive an 80 or higher to successfully complete a course and receive credit for that course. An 80 is equivalent to a GPA of 2.7 or B-. Additionally, students in an endorsement program must receive a cumulative GPA of 3.0 for all courses combined in order to successfully complete the program.

**ACADEMIC INTEGRITY:**

Students must assume responsibility for maintaining honesty in all work submitted for credit and in any other work designated by the instructor of the course. Academic dishonesty includes cheating, fabrication, facilitating academic dishonesty, plagiarism, reusing /re-purposing your own work, unauthorized possession of academic materials, and unauthorized collaboration.

**CITING SOURCES WITH APA STYLE:**

All students are expected to follow proper writing and APA requirements when citing in APA (based on the APA Style Manual, 6th edition) for all assignments.

**DISABILITY SERVICES STATEMENT:**

We are committed to providing reasonable accommodations for all persons with disabilities. Any student with a documented disability requesting academic accommodations should contact the Dean of Students, Dr. Jamie Korn, additional information to coordinate reasonable accommodations for students with documented disabilities (Jamie@njctl.org).

**NETIQUETTE:**

Respect the diversity of opinions among the instructor and classmates and engage with them in a courteous, respectful, and professional manner. All posts and classroom communication must be conducted in accordance with the student code of conduct. Think before you push the Send button. Did you say just what you meant? How will the person on the other end read the words?

Maintain an environment free of harassment, stalking, threats, abuse, insults or humiliation toward the instructor and classmates. This includes, but is not limited to, demeaning written or oral comments of an ethnic, religious, age, disability, sexist (or sexual orientation), or racist nature; and the unwanted sexual advances or intimidations by email, or on discussion boards and other postings within or connected to the online classroom.

If you have concerns about something that has been said, please let your instructor know.

**CLASS SCHEDULE:**

Module	Required Readings	• Assignments
1 – Numbers and Operations	<ul style="list-style-type: none"> <li>PDFs of presentations within the module.</li> </ul>	<ul style="list-style-type: none"> <li>Short Answer</li> <li>Mastery Exercise</li> <li>Module Exam</li> </ul>

<b>2 - Algebra</b>	<ul style="list-style-type: none"> <li>PDFs of presentations within the module.</li> </ul>	<ul style="list-style-type: none"> <li>Short Answer Assignment</li> <li>Mastery Exercise</li> <li>Module Exam</li> </ul>
<b>3 – Functions &amp; Their Graphs</b>	<ul style="list-style-type: none"> <li>PDFs of presentations within the module.</li> </ul>	<ul style="list-style-type: none"> <li>Short Answer Assignment</li> <li>Mastery Exercise</li> <li>Module Exam</li> </ul>
<b>4 – Geometry &amp; Measurement</b>	<ul style="list-style-type: none"> <li>PDFs of presentations within the module.</li> </ul>	<ul style="list-style-type: none"> <li>Short Answer Assignment</li> <li>Lab</li> <li>Mastery Exercise</li> <li>Module Exam</li> </ul>
<b>5 – Probability &amp; Statistics</b>	<ul style="list-style-type: none"> <li>PDFs of presentations within the module.</li> </ul>	<ul style="list-style-type: none"> <li>Short Answer Assignment</li> <li>Mastery Exercise</li> <li>Module Exam</li> </ul>
<b>Calculator Lab</b>	<ul style="list-style-type: none"> <li>PDFs of presentations within the module.</li> </ul>	<ul style="list-style-type: none"> <li>Lab</li> </ul>
<b>6 – Reflection and Final Exam</b>	<ul style="list-style-type: none"> <li>N/A</li> </ul>	<ul style="list-style-type: none"> <li>Reflection Paper</li> <li>Final Exam</li> </ul>