

NEW YORK CITY COLLEGE OF TECHNOLOGY
The City University of New York

DEPARTMENT:	Mathematics
COURSE:	MEDU 3003
TITLE:	<i>Microteaching</i>
DESCRIPTION:	Microteaching focuses on intermediate field school-based experience and the preparation for lesson and unit planning, student assessment and delivery of instruction. It includes 3 hours of class work per week and 60 clock hours per semester of twice-weekly teacher-mentored, school-based, classroom experience: tutoring, grading and working with small groups of students, 20 hours of which are spent working with ELL (English language learners), and 20 with students with special needs.
TEXTS:	Lemov, D. (2010). Teach like a champion. San Francisco, CA: Jossey-Bass Publishing. Smith, M., Kay Stein, M. (2011). Five practices for orchestrating productive mathematics discussions. Reston, VA: NCTM. Additional readings will be distributed by the instructor.
RECOMMENDED TEXTS	Clarke, D. (1997). Constructive assessment in mathematics: Practical Steps for Classroom Teachers. Emeryville, CA: Key Curriculum Press.
RESOURCES:	https://www.engageny.org/common-core-curriculum https://www.illustrativemathematics.org/ http://ime.math.arizona.edu/progressions/ http://map.mathshell.org/
CREDITS:	3 credits (3 lecture hours, 0 lab hours)
PRE-REQUISIRE:	MEDU 3001
PRE-COREQUISITE:	MEDU 3002
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LEARNING OUTCOMES:

Learning Outcomes:	Assessment Methods
Teacher candidates apply MKT (mathematical knowledge for teaching) to design activities, lesson and unit plans, and assessments	Homework assignments, lesson plans, and lesson rehearsals.
Teacher candidates engage their students in mathematical discussions	Lesson plans, and lesson rehearsals.
Teacher candidates elicit students' ideas and involve the entire class in reflecting on their peer's contributions and in evaluating their arguments.	Lesson plans, and lesson rehearsals.
Teacher candidates effectively communicate their mathematical ideas orally and in writing to peers, faculty, and others.	Homework assignments, lesson plans, and lesson rehearsals.
Teacher candidates recognize, use and make connections among mathematical ideas	Homework assignments, lesson plans, and lesson rehearsals.
Teacher candidates utilize various representations of mathematical concepts in order to develop and communicate mathematical understanding	Homework assignments, lesson plans, and lesson rehearsals.
Teacher candidates select and use appropriate mathematics-specific technological tools: TI-85, GeoGebra, Desmos, etc.	Homework assignments, lesson plans, and lesson rehearsals.
Teacher candidates critically reflect on their work and teaching and use feedback to improve them.	Homework assignments, lesson plans, and lesson rehearsals.

A. General Education Learning Outcomes/Assessment Methods

Learning Outcomes:	Assessment Methods
Gather, interpret, evaluate, and apply information discerningly from a variety of sources.	Homework assignments, lesson plans, and lesson rehearsals.
Communicate effectively using written and oral means.	Homework assignments, lesson plans, and lesson rehearsals.
Acquire dialogical skills and skills for facilitation of group discussions.	Lesson rehearsals.
Acquire inquiry skills.	Homework assignments, lesson plans.

B. New York City College of Technology Policy on Academic Integrity

Students and all others who work with information, ideas, texts, images, music, inventions, and other intellectual property owe their audience and sources accuracy and honesty in using, crediting, and citing sources. As a community of intellectual and professional workers, the College recognizes its responsibility for providing instruction in information literacy and academic integrity, offering models of good practice, and responding vigilantly and appropriately to infractions of academic integrity. Accordingly, academic dishonesty is prohibited in The City University of New York and at New York City College of Technology and is punishable by penalties, including failing grades, suspension, and expulsion. The complete text of the College policy on Academic Integrity may be found in the catalog.

GRADING PROCEDURE:

1. Clinical Experience (Based on the mentor's evaluation) 30%
2. Homework Assignments 20%
3. Class Participation/Work- 10%
4. Lesson plans - 20%
5. Lesson Plan with Technology 10%
6. Lesson rehearsal -10%

TEACHING AND LEARNING METHODS:

Guided whole-class discussions

Workshop methodology

Group Work (including hands-on activities)

Technology use (mastery of GeoGebra, Desmos and TI-86 is required)

Presentations

REQUIREMENTS

1. **COMPLETE THE REQUIRED SCHOOL-BASED CLINICAL PRACTICE:** You are expected to complete 60 clock hours of intermediate field experience: 30 hours in a middle school placement and 30 in a high school placement. Of these, 20 hours will be spent working with ELL (English language learners), and 20 with students with special needs. Students will be required to submit a time sheet at the end of the semester and will keep a reflection log.
2. **COMPLETE READINGS prior to the session for which they are assigned.** Bring them to class, as we will be using the texts and referring to them regularly.
3. **ACTIVELY PARTICIPATE IN THE GROUP DISCUSSIONS.** Sharing your ideas and questions with the group, as well as responding to those of your classmates, are crucial to our work together. You will be asked to work/plan in groups of two, and discuss issues in a whole-class format, and your active participation in these discussions is essential.
4. **COMPLETE ASSIGNMENTS:** There will be several individual assignments

A. LESSON PLANS

The purpose of the development of lesson plans is to support teacher candidates in their professional growth by engaging them in instructional design based on their knowledge of

content, theory, research, and knowledge of their students. Further details will be discussed in class.

B. LESSON PLAN WITH TECHNOLOGY: You will create an original lesson plan on some topic from the secondary school curriculum with a central focus on the use of technology in the lesson. Note that the use of technology must be fundamental to the learning of mathematics in this lesson and the understanding of specific concepts. You should explain why the use of technology is essential in this lesson. Technology can include graphing calculators (Desmos or other), dynamic geometry software (GeoGebra, Geometer Sketchpad), spreadsheets, virtual manipulative, etc. Note that a PowerPoint presentation or use of smart board for presentation will not constitute use of technology.

C. ASSESSMENT OF STUDENT LEARNING: Teacher candidates will be required to choose 2 students and assess their learning of a currently studied mathematical topic/concept. Candidates will use a formal assessment and a clinical interview. Details will be discussed in class.

D. A LESSON PLAN REHEARSAL—you are expected to execute at least one activity that you have developed as part of a lesson plan. You will organize and facilitate a classroom discussion structured the activity, which may leads to students using multiple strategies to reach an answer of the question posed or develop a proof required by the given problem. Details will be discussed in class.

E. HOMEWORK ASSIGNMENTS: Homework assignments will be assigned and collected. Additional assignments may be completed and collected during class.

COURSE OUTLINE

SESSIONS	UNIT	REFERENCES
Week 1	Setting High Expectations Introducing the Five Practices	<i>Teach Like a Champion</i> ; Chapter 1 <i>Five practices for g productive mathematics discussions, Chapter 1</i>
Week 2	Planning that Ensures Academic Achievement Laying the Groundwork: Setting Goals and Selecting Tasks	<i>Teach Like a Champion</i> ; Chapter 2 <i>Five practices for g productive mathematics discussions, Chapter 2</i>
Week 3	Structuring and Delivering your Lessons Investigating the Five Practices in Action	<i>Teach Like a Champion</i> ; Chapter 3 <i>Five practices for g productive mathematics discussions, Chapter 3</i>
Week 4	Engaging Students in Your Lessons Getting Started: Anticipating Students' Responses and Monitoring Their Work	<i>Teach Like a Champion</i> ; Chapter 4 <i>Five practices for g productive mathematics discussions, Chapter 4</i>
Week 5	Creating a Strong Classroom Culture Determining the Direction of the Discussion; Selecting, Sequencing, and Connecting Students' Responses	<i>Teach Like a Champion</i> ; Chapter 5 <i>Five practices for g productive mathematics discussions, Chapter 5</i>
Week 6	Setting and Maintaining High Behavioral Expectations Ensuring Active Thinking and Participation: Asking Good Questions and Holding Students Accountable	<i>Teach Like a Champion</i> ; Chapter 6 <i>Five practices for g productive mathematics discussions, Chapter 6</i>
Week 7	Building Character and Trust Putting the Five Practices in a Broader Context of Lesson Planning	<i>Teach Like a Champion</i> ; Chapter 7 <i>Five practices for g productive mathematics discussions, Chapter 7</i>
Week 8	Improving Your Pacing Working in the School Environment to Improve Classroom Discussions	<i>Teach Like a Champion</i> ; Chapter 8 <i>Five practices for g productive mathematics discussions, Chapter 8</i>
Week 9	Challenging Students to think Critically High-Leverage Practices	<i>Teach Like a Champion</i> ; Chapter 9
Week 10	How Can All Teachers be Reading Teachers	<i>Teach Like a Champion</i> ; Chapter 10
Week 11	Teaching Decoding, Vocabulary Development, and Fluency	<i>Teach Like a Champion</i> ; Chapter 11
Week 12	Teaching Students to Understand What They Read	<i>Teach Like a Champion</i> ; Chapter 12
Week 13	Assessing Student Learning and Rubrics	
Week 14	Reports on Assessing Students Learning	
Week 15	Presentations	