

Campbellsville University

MTH 450

Fall 2017 Course Syllabus

TITLE: MTH 450, Methods and Materials of Teaching Mathematics (3 credit hours)

Meeting Times: Tue./ Thur. 12:30 – 1:45, Carter Hall Rm. 110.

Instructor: Troy W. Young

E-mail Address: twyoung@campbellsville.edu

Office: 316 Carter Hall

Office Hours: Monday 2:00 – 2:30; Tuesday 8:30 – 9:30, 1:45 – 3:00; Wednesday 9:00 – 10:00, 2:00 – 3:00; Thursday 8:30 – 9:30, 1:45 – 3:00; Friday 2:00 – 2:30. Other hours available by appointment.

TEXT: *Teaching Secondary and Middle School Mathematics*, 4th edition, Daniel J. Brahier, 2013
ISBN: 978-0-13-269811-5

COURSE DESCRIPTION: This course is designed to educate and prepare future teachers regarding curriculum, techniques, assessment, teaching behaviors, and interventions in secondary and middle school mathematics education.

STUDENT LEARNING OBJECTIVES:

Students will:

- 1) discuss mathematics as a process and discuss learning theories and psychology in mathematics education.
- 2) demonstrate knowledge of the curriculum and its development in secondary and middle school mathematics, including common core and quality core standards.
- 3) use materials and model “teaching mathematics”, which includes lesson planning and “mock classroom” presentations.
- 4) show knowledge of the role of assessment in mathematics and the NCTM standards associated with effective assessment.
- 5) examine the Kentucky Teacher Standards and demonstrate an understanding of each of the ten standards.
- 6) become familiar with a variety of technologies and software that can be used to enhance instruction.
- 7) spend 20 field hours in live classrooms observing, tutoring, assisting, and reflecting.
- 8) receive an overview of the demands and rewards common to the teaching profession.

COURSE REQUIREMENTS:

- 1) Students must be engaged at all times and will be expected to participate and contribute to all class discussions.
- 2) Students must complete 20 observation hours, 15 of which should come from a mathematics classroom. Students will write a brief summary/ reflection for each field experience.
- 3) Students will teach 4 brief math lessons during the semester in our methods classroom.
- 4) Students will meet with the instructor to reflect and receive feedback regarding each teaching experience.
- 5) Students will attend 3 hours of PPD outside of class time. These hours will be provided by the instructor and will focus on preparation for the PRAXIS (Content Knowledge) exam.
- 6) Students will complete regular HW assignments from the text, and also online math assignments designed by the instructor.
- 7) Students will complete 4 projects to be determined by the instructor, which will include a video mini lesson, a curriculum design project, and an assessment design project.

OTHER COURSE DETAILS:

- 1) **Attendance:** Each student is expected to attend *every* class meeting. The University's Undergraduate Student Attendance Policy will be followed.
- 2) **Testing and Grading:** There will be 600 possible points that can be earned during this course. The points will be distributed as follows:

20 Field hours and related writings -	100 points
Written and on line homework -	100 points
Four (in class) presentations @ 25 pts. each -	100 Points
Special Projects (Four @ 25 pts. Each)	100 Points
Midterm exam -	100 Points
Final Exam -	100 Points
- 3) **Electronic Devices:** Any electronic device must be silenced during class time. No keyboard or programmable device will be permitted on exams or tests. Scientific calculators may be used at all times.
- 4) **Teaching Methods:** Students will be taught through class participation, presentation, class discussion, lecture, group work, assigned written work, projects, and problem solving.

TEXT CONTENT OUTLINE:

- I. Nature of mathematics education: Chapters 1 and 2
- II. Teaching mathematics
 - A. Planning for Instruction – Chapter 6
 - B. Teaching tools and strategies – Chapter 7
 - C. Teaching specific math content
 - i) Number Sense and Algebra – Chapter 8
 - ii) Geometry, Prob./Stats, Disc. Math – Ch. 9
- III. Learning theories and psychology in math – Chapter 3
- IV. The mathematics curriculum – Chapters 4 and 5
- V. Assessment in mathematics – Chapters 10-11
- VI. Meeting Individual Student and Teacher Needs – Chapter 12-13

Disability Statement: Campbellsville University is committed to reasonable accommodations for students who have documented physical and learning disabilities, as well as medical and emotional conditions. If you have a documented disability or condition of this nature, you may be eligible for disability services. Documentation must be from a licensed professional and current in terms of assessment. Please contact the Coordinator of Disability Services at 270-789-5192 to inquire about services. If you are already in possession of documentation to show the Instructor, please do so and you will receive the Departmental Guidelines for our students with disabilities.

Title IX: Campbellsville University and its faculty are committed to assuring a safe and productive educational environment for all students. In order to meet this commitment and to comply with Title IX of the Education Amendments of 1972 and guidance from the Office for Civil Rights, the University requires all responsible employees, which includes faculty members, to report incidents of sexual misconduct shared by students to the University's Title IX Coordinator.

Title IX Coordinator
Terry VanMeter 1 University Drive
UPO Box 944
Administration Office 8A
Phone - 270-789-5016
Email — twvanmeter@campbellsville.edu

Information regarding the reporting of sexual violence and the resources that are available to victims of sexual violence is set forth at: www.campbellsville.edu/titleIX

SECURITY CONTACTS:

Security cell phone: 270-403-3611

Security Office Phone: 270-789-5556