University of West Georgia  
MATH 3805: Functions and Modeling  
Spring 2019  
Course Syllabus

Instructor: Dr. Christopher Jett  
E-mail: cjett@westga.edu

Office: 322 Boyd Building  
Class Location: 304 Boyd Building

Phone: (678) 839–4130  
Class Meeting: T/R 11:00–12:15 p.m.

Office Hours: T/R 10:30–11:00 a.m.  
1:00–3:30 p.m.; Others by appointment

Catalog Description: This mathematics course is designed to address the unique needs of future teachers of mathematics. It is required of UTEACH mathematics majors and also counts toward their mathematics degree. In the course, students engage in explorations and lab activities designed to strengthen and expand their knowledge of the topics found in secondary mathematics.

Special Note about this Course: This course’s theme of Teaching and Learning Mathematics for Social Justice (TLMSJ) is funded by the STEM Education Enhancement Plan (SEEP).

University Policy: Please carefully read and review the important information at the following link: [http://www.westga.edu/assetsDept/vpaa/Common_Language_for_Course_Syllabi.pdf](http://www.westga.edu/assetsDept/vpaa/Common_Language_for_Course_Syllabi.pdf). This link contains material pertaining to your rights and responsibilities as a student in this class. Because these statements are updated as federal, state, university, and accreditation standards change, please carefully review the information each semester.

Required Texts:

Student Learning Outcomes: In this course, you should be able to do the following:
• Demonstrate proficiency in working with function related topics and mathematical modeling.
• Broaden your understanding and strengthen connections between secondary school mathematics and undergraduate mathematics.
• Synthesize mathematics education research literature.
• Exhibit proficiency in using technology in the mathematics classroom.
• Present mathematical ideas and topics in a knowledgeable and effective manner.
• Become efficient seekers of mathematics content and pedagogical knowledge.
• Plan and teach mathematics lessons with social justice aims.
• Become more familiar with our flagship professional organization—the National Council of Teachers of Mathematics (NCTM)—and its related resources.
• Establish personalized reform-based visions for teaching secondary mathematics aligned with the Common Core State Standards for Mathematics.
Attendance Policy:
It is my expectation that you will attend every class session and be punctual. Class participation entails being an active participant during the mathematics teaching and learning process. In the event of an absence, you are expected to get the materials and information relevant to the missed class from your peers. There are only 4 excused and unexcused absences allowed during the semester. If you exceed 4 absences, then you will fail the course. Please note that is your responsibility to sign the attendance sheet during each class period.

Evaluation Techniques:
Homework: 10%                        MATH Day Competition: 5%
Reading Facilitator: 5%             Underrepresented Math Professional: 5%
Math and Social Justice Brochure: 5%     Microteaching Project: 5%
Exam I: 20%                            Exam II: 20%
Final Exam: 25%

Information about Course Assignments:

Homework
You will complete the homework problems/problem sets and place them in a homework folder. Homework folders will be turned in on examination days.

Reading Facilitator
As it stands, Mathematics Teacher is the leading journal for secondary mathematics practitioners, and Mathematics Teaching in the Middle School is the leading journal for middle school mathematics practitioners published by NCTM. You will select and serve as the reading facilitator for one of the articles.

MATH Day Mathematics Competition
The Department of Mathematics has organized a mathematics competition for UWG’s undergraduate students. You are required to enter the competition as a minimum amount of mathematics background knowledge is needed for entry into the competition. Please sign up to participate in the Undergraduate Mathematics Competition during our annual MATH Day.

Underrepresented Mathematicians/Mathematics Educators
You will conduct some research on an underrepresented mathematician or mathematics educator, write/submit a 500 word paper on this professional, and share information with our class community on your scheduled presentation date.

Mathematics and Social Justice Brochure
You will prepare and submit a brochure related to teaching mathematics for social justice. Additional information concerning this assignment will be posted in CourseDen.

Microteaching Project
You will complete a final microteaching project. A rubric concerning specific information about this assignment will be posted in CourseDen.

Examinations I & II
Each examination will consist of an assessment of the mathematics concepts covered.

Final Examination
The final examination will consist of a cumulative assessment of the mathematics concepts covered throughout the entire semester.
Important Dates:
• MATH Day is scheduled for Friday, March 1st.
• The mathematics and social brochure is due on Tuesday, April 16th.
• The microteaching presentation is scheduled for Tuesday, April 23rd.
• The final exam is scheduled for Tuesday, May 7th from 11:00 a.m.–1:00 p.m.

Class Policies and Procedures:
1. All course assignments will be uploaded to CourseDen.
2. There will be no make up for any of the presentations. Failure to present on your scheduled date will result in a grade of zero.
3. Late work is accepted with a 50% penalty for one late assignment. Other late submissions above the allotted one will result in a grade of zero.
4. If you must miss an exam and you have excused documentation, then the final examination will be used for the missed test in the calculation of your final course grade.
5. Calculators can be used during examinations; however, cell phones may not be used.
6. Cheating is not tolerated. If you are caught cheating, then you will receive a zero for the test or assignment and will be reported for academic dishonesty.
7. Grades cannot be sent via e-mail to you. You are expected to keep accurate records and ascertain where you stand in the course.
8. The tentative, daily schedule is included at the end of this syllabus.
9. Conferences with the professor can be beneficial and are encouraged. All conferences should occur during office hours.
10. Office hours will not be kept during final exam week. If a meeting is necessary during the final exam week, then please schedule an appointment.

Course Readings:
Social Justice-Related Resources:

Professional Resources:

Mathematics-Themed Literature:
## Daily Schedule: Spring 2019

<table>
<thead>
<tr>
<th>Date</th>
<th>Learning Objective</th>
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<tbody>
<tr>
<td>January 8th</td>
<td>Introduction to Functions and Modeling</td>
</tr>
<tr>
<td>January 10th</td>
<td>Number Theory Concepts</td>
</tr>
<tr>
<td>January 15th</td>
<td>Number Relations I</td>
</tr>
<tr>
<td>January 17th</td>
<td>Number Relations II</td>
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<tr>
<td>January 22nd</td>
<td>Problem Solving I</td>
</tr>
<tr>
<td>January 24th</td>
<td>Proportional Reasoning</td>
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<tr>
<td>January 29th</td>
<td>Algebraic Concepts I</td>
</tr>
<tr>
<td>January 31st</td>
<td>Algebraic Concepts II</td>
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<tr>
<td>February 5th</td>
<td>Mathematics Vocabulary</td>
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<tr>
<td>February 7th</td>
<td><strong>Professor @ Conference: Reading Day</strong></td>
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<tr>
<td>February 12th</td>
<td>Problem Solving II</td>
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<tr>
<td>February 14th</td>
<td>Examination I</td>
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<tr>
<td>February 19th</td>
<td>Functions cont.</td>
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<tr>
<td>February 21st</td>
<td>Graphs of Functions</td>
</tr>
<tr>
<td>February 26th</td>
<td>Geometric Concepts</td>
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<tr>
<td>February 28th</td>
<td>Trigonometric Functions</td>
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<tr>
<td>March 1st</td>
<td><strong>UWG’s Mathematics Department’s Annual MATH DAY</strong></td>
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<tr>
<td>March 5th</td>
<td>Counting Principles</td>
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<td>March 7th</td>
<td>Problem Solving III</td>
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<tr>
<td>March 12th</td>
<td>Quadratic Functions</td>
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<tr>
<td>March 14th</td>
<td>Infusing Literature in the Secondary Mathematics Classroom</td>
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<tr>
<td>March 19th</td>
<td><strong>Spring Break: No Class</strong></td>
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<tr>
<td>March 21st</td>
<td><strong>Spring Break: No Class</strong></td>
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<tr>
<td>March 26th</td>
<td>Matrices</td>
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<tr>
<td>March 28th</td>
<td>Mathematical Misconceptions</td>
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<tr>
<td>April 2nd</td>
<td>Problem Solving IV</td>
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<td>April 4th</td>
<td>Examination II</td>
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<tr>
<td>April 9th</td>
<td><strong>Professor @ Conference: Online Reading Response</strong></td>
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<tr>
<td>April 11th</td>
<td>Technology Day</td>
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<tr>
<td>April 16th</td>
<td>Brochures &amp; Georgia Milestones/SAT</td>
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<tr>
<td>April 18th</td>
<td>GACE/Praxis II</td>
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<tr>
<td>April 23rd</td>
<td>Microteaching</td>
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<tr>
<td>April 25th</td>
<td>Continuing in the Profession</td>
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<tr>
<td>April 30th</td>
<td>Review for Final Examination</td>
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<tr>
<td>May 2nd</td>
<td>Final Examinations: <strong>No Class</strong></td>
</tr>
<tr>
<td>May 7th</td>
<td><strong>Final Examination: 11:00 a.m. – 1:00 p.m.</strong></td>
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1 As mentioned on page 3, MATH Day is on a Friday, so please make arrangements to be present.