University of West Georgia
MATH 3805: Functions and Modeling
Spring 2016
Course Syllabus

Instructor: Dr. Christopher Jett
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Phone: (678) 839-4130
Class Location: 228 Humanities Academic Bldg.
Class Meeting: M/W 3:30-4:50 p.m.
Office Hours: M/W/F 10-12; M/W 2:00-3:30

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.

University Policy:
Please carefully read and review the important information at the following link: http://www.westga.edu/assets/Dept/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.

Ancillary Textbooks:

Student Learning Outcomes:
In this course, mathematics teacher candidates should be able to do the following:
• Demonstrate proficiency in working with function related topics and mathematical modeling.
• Broaden their understanding of secondary mathematics content knowledge.
• Strengthen connections between college mathematics and secondary school mathematics.
• Make connections between secondary school mathematics and other content areas.
• 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 knowledge.
• 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 students will attend every class session and be punctual. Class participation entails being an active participant during the teaching and learning process. In the event of an absence, students are expected to get the materials and information relevant to the missed class from their peers. There are only 4 unexcused and excused 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%
- Midterm Project: 10%
- Final Exam: 25%
- ASK Papers: 10%
- Midterm Exam: 25%
- MATH Day Competition: 10%
- Final Project: 10%

**Information about Course Assignments:**

**Homework**

Each mathematics teacher candidate will complete the daily homework problems and place them in a homework folder. Homework folders will be turned in on examination days.

**ASK Papers**

Each mathematics teacher candidate will complete five ASK papers. These papers are designed to delve deeper into the mathematics at the secondary and undergraduate levels. ASK papers must be a full double-spaced page for full credit to be awarded.

**MATH Day Mathematics Competition**

Please sign up to participate in the Undergraduate Mathematics Competition during our annual UWG MATH Day.

**Midterm Project**

Each group will prepare an innovative 25 minute midterm presentation. More information concerning the midterm project will be posted in CourseDen.

**Midterm Examination**

The midterm examination will consist of a **cumulative** assessment of the concepts covered throughout the first portion of the semester.

**Final Project**

Each mathematics teacher candidate will complete a final project. A rubric concerning specific information about this assignment will be posted in CourseDen.

**Final Examination**

The final examination will consist of a **cumulative** assessment of the concepts covered throughout the entire semester.

**No Class Dates:**

Please note that there will be no class on Monday, January 18th in observance of the Dr. Martin Luther King Jr. Holiday, and there will be no class on Wednesday, March 30th in observance of UWG's Honors Convocation.

**Due Dates:**

- The midterm presentations are scheduled for Monday, March 21st and Wednesday, March 23rd.
- MATH Day is scheduled for Friday, February 26th.
- The final project is due on Monday, April 11th.
- The final exam is scheduled for Wednesday, April 27th from 2:00 p.m.—4:30 p.m.

**Class Policies and Procedures:**

1. All course assignments will be uploaded to CourseDen.
2. There will be no make up for the midterm presentation. 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. Please note that only one assignment can be submitted late. Other late submissions above the allotted one will result in a grade of zero.

4. If a student must miss the midterm exam and has excused documentation, then the final examination will be used for the missed test in the calculation of the final course grade.

5. Calculators can be used during examinations; however, cell phones may not be used (even as calculators).

6. In an effort to respect the learning process, please be sure that cellular phones are placed on vibrate or silent during class time.

7. Cheating is not tolerated. If a student is caught cheating, then the student will receive a zero for the test or assignment and will be reported for academic dishonesty.

8. Grades cannot be sent via e-mail to students. Students are expected to keep accurate records and ascertain where they stand in the course.

9. The daily schedule is included on the back of this page. Please note that this daily schedule is tentative. Changes might be made based on students’ needs, inclement weather changes, etc.

10. Conferences can be beneficial and are encouraged. All conferences should occur during office hours.

11. 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:


Professional Resources:


# Daily Schedule: Spring 2016

<table>
<thead>
<tr>
<th>Date</th>
<th>Learning Objective</th>
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<tbody>
<tr>
<td>January 11th</td>
<td>Introduction to Functions and Modeling</td>
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<tr>
<td>January 13th</td>
<td>Functions</td>
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<tr>
<td>January 18th</td>
<td>MLK Jr. Holiday: No Class</td>
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<tr>
<td>January 20th</td>
<td>Modeling</td>
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<tr>
<td>January 25th</td>
<td>Functions &amp; Relations</td>
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<tr>
<td>January 27th</td>
<td>Rate of Change</td>
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<td>February 1st</td>
<td>Graphs of Functions</td>
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<td>February 3rd</td>
<td>Problem Solving I</td>
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<td>February 8th</td>
<td>Counting Principles</td>
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<tr>
<td>February 10th</td>
<td>Trigonometric Functions</td>
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<td>February 15th</td>
<td>Matrices</td>
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<tr>
<td>February 17th</td>
<td>Quadratic Functions</td>
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<tr>
<td>February 22nd</td>
<td>Professor @ Conference: Online Class/SI Leader</td>
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<tr>
<td>February 24th</td>
<td>Problem Solving II</td>
</tr>
<tr>
<td>February 26th</td>
<td>UWG’s Mathematics Department’s Annual MATH DAY</td>
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<tr>
<td>February 29th</td>
<td>Logarithmic &amp; Exponential Functions</td>
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<tr>
<td>March 2nd</td>
<td>Review</td>
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<tr>
<td>March 7th</td>
<td>Midterm Examination</td>
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<td>March 9th</td>
<td>Midterm Meeting Day</td>
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<td>March 14th</td>
<td>Spring Break: No Class</td>
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<tr>
<td>March 16th</td>
<td>Spring Break: No Class</td>
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<tr>
<td>March 21st</td>
<td>Midterm Project Presentations</td>
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<tr>
<td>March 23rd</td>
<td>Midterm Project Presentations</td>
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<td>March 28th</td>
<td>Mathematical Misconceptions</td>
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<td>March 30th</td>
<td>UWG’s Honors Convocation: No Class</td>
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<td>April 4th</td>
<td>Calculus Functions</td>
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<td>April 6th</td>
<td>Technology Day</td>
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<tr>
<td>April 11th</td>
<td>Professor @ Conference: Online Class/SI Leader</td>
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<tr>
<td>April 18th</td>
<td>GACE/MAA/NCTM</td>
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<tr>
<td>April 20th</td>
<td>Review for Final Examination</td>
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<tr>
<td>April 27th</td>
<td>Final Examination: 2:00 p.m. – 4:30 p.m.</td>
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1 As mentioned on the previous page, MATH Day is on a Friday. Please place this date on your calendar and make arrangements to be present for this important day.