



Course syllabus

ATLANTA METROPOLITAN STATE COLLEGE

School of Arts and Sciences

Math Modeling

MATH 1101 CRN: 81012 (Section CSU)

Fall 2025

Online Course

Instructor Information	Name: Noel Whelchel
Office location:	
Office telephone:	404-989-7647
Email Address	nwhelchel@atlm.edu
Office Hours:	
<ul style="list-style-type: none"> In Person: 	
<ul style="list-style-type: none"> Online 	<i>Office hours for this course are scheduled for Tuesdays from 5 - 6:00PM.</i>
<ul style="list-style-type: none"> By Appointment 	Office hour disclaimer: If you are not able to meet with the instructor during office hours, you may schedule an appointment based on instructor's availability.
Course Information	This course is a study of real-world phenomena using functions as models. Emphasis is placed on developing the ability to communicate quantitative concepts and critical analysis of functions and their graphs. Topics covered will include inequalities, linear, quadratic, polynomial, exponential, and logarithmic functions, and matrices. There will also be a focus on relating mathematical concepts to applications, and modeling natural phenomena. The use of appropriate technologies to solve problems and to communicate solutions will be required.
Pre-requisites	Students must have compass score more than 29 or must earn a course grade of "C" or better in MATH0998 (Foundations for Mathematical Modeling) or take this class together with the support class.
Credit Hours	3
Catalog Description	This course is an introduction to mathematical modeling using graphical, numerical, symbolic, and verbal techniques to describe and explore real-world data and phenomena. Emphasis is on the use of elementary functions to investigate and analyze applied problems and questions, supported by use of appropriate technology and an effective communication of quantitative concepts and results.
CORE IMPACTS	<p>This is a Core IMPACTS course that is part of the <u>Mathematics</u> area.</p> <p>Core IMPACTS refers to the core curriculum, which provides students with essential knowledge in foundational academic areas. This course will help master course content, and support students' broad academic and career goals.</p> <p>This course should direct students toward the following broad <u>Orienting Question</u>:</p> <ul style="list-style-type: none"> How do I measure the world? <p>Completion of this course should enable students to meet the following <u>Learning Outcome</u>:</p> <ul style="list-style-type: none"> Students will apply mathematical and computational knowledge to interpret, evaluate, and

	<p>communicate quantitative information using verbal, numerical, graphical, or symbolic forms.</p> <p>Course content, activities and exercises in this course should help students develop the following <u>Career-Ready Competencies</u>:</p> <p>Information Literacy, Inquiry Analysis, Problem-Solving</p>
Course Start and End Date	August 18 – December 6
Career-Ready Competencies	Information Literacy Inquiry and Analysis Problem-Solving
Course Textbook	Knewton Alta College Algebra with Corequisite Support: A Targeted Review v3
Required Resources	<p>This course will be conducted using the Knewton Alta course management system. The cost of this system is \$44.95. Students can buy access code from the college bookstore if receiving financial aid. The website for college bookstore is https://atlm.textbooktech.com/. All the Homework, Quizzes and Exams will be facilitated through Knewton Alta. A proctored final exam is included with the system. All assignments are graded and scores made available to students by the system immediately after they are submitted.</p> <p>Access to D2L via a computer is required as all assignments are provided via D2L.</p>
Recommended Resources	A scientific calculator is required for some problems while a graphing Calculator (TI 82 or higher) may be helpful
Core Impact Learning Outcomes	Students will apply mathematical and computational knowledge to interpret, evaluate, and communicate quantitative information using verbal, numerical, graphical, or symbolic forms.
Program Learning objectives	Not applicable
Course Learning Objectives	<p>Unit 1: Ratio, Proportions, Operations of Polynomials, Solution of Linear Equations & Inequalities and Applications</p> <p>Students will demonstrate proficiency in:</p> <ul style="list-style-type: none"> A Solving Ratios and Proportion problems and real-life applications. B Solving linear Equations and real-life applications. C Solving Linear Inequalities and real-life applications. D Simplifying polynomials by using different operations. <p>Unit 2: Factoring Polynomials, Quadratic Equations, System of Equations, Distance and midpoint between two points, Slope, Equation of the line, Graphing Equations, Applications</p>

Students should demonstrate proficiency in:

- A. Factoring Polynomials
- B. Solving Quadratic Equations and its real-life applications.
- C. Graphing first degree equations.
- D. Solving Systems of Equations and real-life applications.
- E. Finding slope, intercepts, and equation of the line(s).
- F. Finding distance and midpoint between two points.

Unit 3. Functions, Analyzing Functions, Piece-wise Functions, Linear and Quadratic Functions

Students should demonstrate proficiency in:

- A. Graphing Linear, Quadratic and Piece-wise functions.
- B. Identifying and testing for relations and functions.
- C. Defining and determining the domain and range of a function.
- D. Analyzing the graph of functions and identifying different types of functions.
- E. Solving Real-life applications of Linear, Quadratic and Piece-wise functions.

Unit 4: Operations of Functions, Composite Functions, Inverse Functions, Exponential Functions, Variations.

Students should demonstrate proficiency in:

- A. Simplifying Functions by using Mathematical Operations.
- B. Finding Composite Functions.
- C. Determining whether a function is one-to-one.
- D. Finding Inverse of a Function.
- E. Evaluating Exponential functions.
- F. Graphing Exponential Equations.
- G. Solving Business and Science Applications.

	enrollment status in this course during the semester. The student is responsible for determining changes, if any, in enrollment status and taking necessary steps (e.g., pursuing re-instatement in this course) following those outlined in the AMSC catalog.
Attendance Verification (No Show)/Reinstatement	<p>Atlanta Metropolitan State College has a "No-Show" Reporting (Attendance Verification) policy. This policy is to comply with Federal Financial Aid regulations. Financial Aid recipients at Atlanta Metropolitan State College may become ineligible for funds by not attending class session (per enrolled course). Students who do not complete Mandatory Attendance Assignments and attend class sessions are NOT entitled to keep their financial aid award. The Registrar's Office will notify the students and faculty when the Attendance Verification Period has opened. The established "No-Show" Reporting (Attendance Verification) procedure will enable Atlanta Metropolitan State College to adjust financial aid awards before funds are issued to students (thereby eliminating liability for both the College and the student). A student reported as non-attending a course must seek the approval of the instructor in order to be reinstated. Once approved, the student will complete the Reinstatement form and submit it. The Office of Registrar will notify students when course reinstatement process has been completed during Reinstatement Period.</p> <p>The student can demonstrate compelling reason (s) that have prevented attendance and the instructor believes that there is a strong probability that the student can catch up in the class OR The instructor made an error, and the student was in attendance prior to being dropped.</p>
Computer Hardware & Software Requirements:	One of the challenges many encounter with enrolling in and completing an online course is the accessibility to the required and recommended software and hardware. Different institutions, and even different courses within the same institution, have varying technology requirements. Check your hardware and software systems to determine its compatibility with the online course you have selected.
Minimum Hardware Recommendations to take courses:	See recommendations in D2L.

<p>Tutoring Services</p>	<p>Students improve their self-confidence and increase their chances of excelling in their courses when they utilize their college/university academic support services. The following tutoring services are available to AMSC students:</p> <ul style="list-style-type: none"> ❖ The AMSC Writing Center is open year-round to support students, staff, and faculty at AMSC. It offers virtual and in-person tutoring for various writing projects, assists at any stage of the writing process, and increases improvement in structure, use of sources, style, grammar, and more. The Writing Center is located in Building 100, Room 211. Students can walk in during hours of operation or schedule an appointment at https://calendly.com/amscwritingcenter/30min ❖ Tutor.com is a virtual space for students to access writing tutors outside of AMSC faculty. Access tutor.com in Brightspace by logging into your course. Next, click the 'Free Tutoring' tab and choose Tutor.com from the dropdown options. Students are granted five (5) hours per semester, and registration is not required. Contact the Center for Student Success and Advising at (404) 756-5690 for assistance. ❖ TutorOcean is a tutorial for students enrolled in STEM courses such as Biology, Chemistry, Mathematics, and Computer Science. Access TutorOcean and sign up at https://atlm.tutorocean.com
<p>Americans with Disabilities Act (ADA) Statement</p>	<p>Atlanta Metropolitan College is committed to providing support for all students and making their college experience an enriching opportunity. In compliance with Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990, The Department/Office of Counseling and Accessibility Services, located in the Student Services & Success Center, building 650-Suite 252, oversees the coordination of services for students with documented disabilities. The Coordinator of Disability Services collaborates with faculty and staff to offer provisions for reasonable accommodation to students who meet the requirements.</p> <p>It is the policy and practice of AMSC to make all Web information accessible to students with disabilities. If you, as a student with a disability, have difficulty accessing any part of the course materials for this class, please notify the instructor immediately.</p> <p>Accommodation cannot be provided until a reasonable accommodation plan is in place. To the greatest extent possible, all college representatives shall observe confidentiality.</p>
<p>Office of Counseling and Accessibility Services</p>	<p>The Office of Counseling and Accessibility Services operates under the Americans with Disabilities Act (ADA) laws in order to assist in leveling the playing field for students who have disabilities with those who do not.</p>

	<p>The amended ADA, otherwise known as ADAAAA defines “disability” as a physical or mental impairment that substantially limits one or more major life activities. If you feel that you have a disability or impairment that may limit your academic functioning, please contact Dr. Dorothy Williams, the Director of Counseling and Accessibility Services at 404-756-4016 or at</p> <p>https://www.atlm.edu/students/counseling-and-disability-services.aspx.</p> <p>The Coordinator of Counseling and Accessibility Services reviews all accommodation requests. In order to receive accommodation, the student’s illness or disability must be verified in writing by a physician, psychiatrist, or some other health care provider or specialist. Students choosing to access disability support services should contact the Coordinator as soon as possible after acceptance to AMSC. Please be aware that late notifications may result in complications for establishing accommodation in a timely fashion.</p>
Withdrawal	<p>Withdrawal from a course is solely the responsibility of the student. Instructors will not initiate student withdrawals. A student who wishes to withdraw from a course MUST submit a completed Withdrawal Form (Schedule Reductions Form) to the Registrar’s Office before mid-term in order to receive a grade of “W” for the course.</p> <p>A student who withdraws after the Midterm date receives a “WF” unless the Vice President for Academic Affairs determines that it is a hardship case, then a “W” will be recorded. The possibility that a student may fail the course will not be considered a hardship</p>
Incomplete Grade Policy	<p>An incomplete may be awarded at the instructor's discretion for non-academic reasons which prevent the student from completing the course requirements. The student must be passing the course at the time that the Incomplete is awarded and must sign an "Awarding of Incomplete" agreement. Unless otherwise stated, the incomplete should be removed by the end of the following semester; otherwise, the instructor will change the grade to an “F” grade.</p>
Time Commitment	<p>To successfully complete this course it requires discipline, devoted time and commitment. A student must arrange his / her schedule to allow for the required time for this course. Expect to spend a minimum of seven (7) to ten (10) hours per week to thoroughly read each chapter and complete the required chapter assignments. Additional time most likely will be required to complete quizzes and exams.</p>
Student Expectations	<p>Students are expected to be fully invested and engaged in their learning. The following guidelines are included to facilitate your course success.</p> <ul style="list-style-type: none"> • Participate in this course by following the guidelines of this syllabus and any additional

	<p>information the instructor provides by email, telephone, discussion forums, etc.</p> <ul style="list-style-type: none"> • Please speak with your instructor in advance if you have extenuating circumstances that prevent you from completing your assignments by the designated due dates. If a medical emergency occurs, you will need to provide a written medical / doctor's notice for the period in which you are unable to participate in class or complete any of the assignments (discussion, case studies, quizzes, exams, etc.). Without a medical / doctor's notice, all assignments missed will be scored as zero. • Sign-in to Brightspace D2L and / or Courseware to complete assignments regularly. • Read, study, and complete all assignments by the due dates. • Monitor Brightspace D2L course calendar. • Have access to a computer and the Internet. Make certain computer meets the technical requirements for computer course. • Be courteous, polite and respectful to faculty, staff and fellow students. <p>For online courses, the instructor will use Brightspace D2L email for all course related correspondence. Check Brightspace D2L email as well as Ginger email daily to stay abreast of what is going on in class.</p>
Online Discussion Protocol	<ul style="list-style-type: none"> • The purpose of the discussion forum is to have interactive online discussions with our class community about specific topics, assignments, or readings. • Be constructive and positive. You can challenge ideas and course content yet avoid becoming negative online. When you disagree respectfully and politely, you stimulate and encourage great discussion. • You are expected to conduct yourself in a mature, courteous, and mutually respectful manner. • Always sign your name. • Postings should be well written with proper punctuation, spelling and grammar. Avoid the use of all caps or multiple punctuation elements (!!!???). Postings should be a minimum of 3 – 4 sentences. • Check postings for responses from others and respond in kind. • Postings should be evenly distributed throughout the week. Avoid making only weekend postings. • Encourage further discussion by building on current threads. <p>The instructor may not respond to every post but will be monitoring each discussion. A response may be made to contribute to a discussion, clarify a situation or redirect the conversation</p>

Degree Relevance and Enrollment Status	Students are ultimately responsible for ensuring that the course(s) in which they enroll are included in the approved degree plan and program map for their program of study. Students must periodically check their enrollment status in this course during the semester. The student is responsible for determining changes, if any in enrollment status and taking necessary steps (e.g. pursuing re-instatement in this course) following those outlined in the AMSC catalog
Abandoning a Course	Abandoning a course should be avoided at all cost. Abandoning a course instead of following official drop procedures will result in a grade of –F at the end of the course. It is the student’s responsibility to initiate and complete the withdrawal process.
Academic Honesty	<p>Only the epitome of professionalism is expected of each student. Cheating or the abetment of cheating is not tolerated.</p> <p>Per page 91-93 of the 2019-2020 Atlanta Metropolitan State College Catalogue the Penalties for Academic Misconduct states:</p> <ul style="list-style-type: none"> • In cases where a student is found guilty of cheating or exhibiting academic misconduct involving an instructor-generated assignment or examination, the instructor may impose a penalty. • Types of penalties may include, but are not limited to, the instructor assigning a grade of “F” for the assignment, the instructor not accepting the work, the student being assigned additional work, or the student receiving a grade reduction for the assignment. <p>The maximum penalty the instructor may impose is a grade of “F” for the course.</p>
Class Cancellation	<p>Procedure regarding long-term emergency closure of the college (attendance policy): In the event of an emergency that forces the college to close for an extended period, students MUST contact the instructor of this class within 48 hours using the contact information (e.g., email address in BrightSpace/D2L) on the syllabus to obtain directions for continuing the course. The instructor will provide directions for the transmission and submission of course assignments and course assessments, including due dates.</p> <p>The student is responsible for submitting valid, accurate contact information, including an active AMSC email address to the instructor by the end of the first week of the course. Students can obtain an Atlanta Metropolitan State College Student email address in the Academic Support Center on the third floor of the Library Building.</p>

	If the instructor for the course cannot be reached within the specified period (within 48 hours), the Dean of the School responsible for the course can be reached at the email address posted on the college’s website																
Class Schedule	See the calendar of course assignments in D2L																
Grading Scale	90% - 100% of maximum points awarded = A 89% - 80% of maximum points awarded = B 79% - 70% of maximum points awarded = C 69% - 60% of maximum points awarded = D Below 60% of maximum points awarded = F																
Grade Distribution		<table><tr><th>Items</th><th>Weight</th></tr><tr><td>Unit Exams (4)</td><td>50%</td></tr><tr><td>Final Exam</td><td>15%</td></tr><tr><td>Homework</td><td>15%</td></tr><tr><td>Quizzes</td><td>15%</td></tr><tr><td>Diagnostic Assessment</td><td>5%</td></tr><tr><td>Mindset Learning Activities I – IV</td><td>≤5%</td></tr></table>	Items	Weight	Unit Exams (4)	50%	Final Exam	15%	Homework	15%	Quizzes	15%	Diagnostic Assessment	5%	Mindset Learning Activities I – IV	≤5%	
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Grade Appeals and Student Complaint Policy and Process	Please follow the Grade Appeals Process outlined in the AMSC Student Catalog, Pages 61/62. You can also refer to the Grade Appeal brochure at: https://www.atlm.edu/downloads/advisement/CAAS%20Grade%20Appeal%20Brochure.pdf For student complaint policy and process, refer to AMSC student catalog pages 51/52.																
Frequently Asked Questions and Helpful Links																	
I need:	LINK																
What is Brightspace (D2L)	Brightspace(D2L) is the virtual space where students access their online courses and some Face2Face class																

and how can I access it?	<p>resources, quizzes, assignments, etc.</p> <p>You can access Brightspace (D2L) from https://atlm.view.usg.edu/</p> <p>You can also access Brightspace (D2L) from the College's webpage and click on Brightspace (D2L) on top.</p>
Who is my Advisor? Where can I receive Advisement and Tutoring assistance?	Center for Academic Advising and Success (CAAS)
What do I do if I face technical issues while taking a quiz or turning in an assignment in Brightspace	https://d2lhelp.view.usg.edu/ You can reach the GaView Helpdesk 24/7/365 days at 18557724423. If you are unable to submit a quiz or assignment or face a technical glitch, please contact the University System of Georgia's GaView Helpdesk at 1855 772 4423. The Helpdesk is open 24/7 all 365 days. If your issue cannot be resolved right away, the Helpdesk will issue a ticket to your Atlm Ginger email address. That ticket needs to be forwarded to your instructor to prove that you faced a technical issue that forced you to miss a deadline.
I can't download Respondus Lockdown Browser. What do I do?	If you are unable to download Respondus to your computer, please email the Office of Testing at Testing@atlm.edu at least 24 hours in advance requesting a testing appointment at the Testing Lab. For Respondus issues, please contact https://web.respondus.com/contact/ .
Where do I go for ADA Accommodations	https://www.atlm.edu/students/counseling-and-disability-services.aspx
I have a complaint. Where do I go?	Fill out and submit the Student Complaint form
I have an issue with my grade. How may I appeal my grade.	Read the brochure and follow the instructions to appeal your grade .
How do I Withdraw from a Course	Follow the Course Withdrawal Process here
I have a Hardship. How do I do a Hardship Withdrawal?	Follow the Hardship Withdrawal Process here
To Know the Campus	House Bill 280 Guidelines

Carry/HB 280 Policy	
Disclaimer	<i>Information contained in this syllabus and schedule was, to the best knowledge of the instructor, considered correct and complete when distributed for use at the beginning of the semester. This syllabus should be considered only a guide for instructor and students, not a formal contract between Atlanta Metropolitan State College and any student. The instructor reserves the right, acting within the policies and procedures of AMSC, to make changes in course content or instructional techniques.</i>