

2024 Syllabus  
 Aquinas College  
 Department of Mathematics

The mission of the Mathematics Department at Aquinas College is directly linked to the mission of the College in that it provides a program for all students that is an essential part of a liberal arts education. It promotes the study of mathematics in depth in preparation for graduate school or an immediate career, supports the mathematical needs of other disciplines, and supplies a curriculum for all students to enhance their understanding of mathematical thought.

Aquinas College Integrity Statement

Aquinas College is rooted in the Dominican traditions of prayer, study, community and service, combined with a deep respect for truth, honesty and integrity. In this spirit, we strive to create an environment in which integrity is prized and practiced. We expect all community members to uphold these values through honesty, fairness, and respect for others.

Instructor: Dr. McDaniel x2147    mcdanmic@aquinas.edu    AB50D  
 Textbook: Openstax Calculus 2.

	<b>M</b>	<b>T</b>	<b>W</b>	<b>TH</b>	<b>F</b>
<b>8:00 - 9:10</b>	<b>MAT122 AB114</b>		<b>MAT122</b>		<b>MAT122</b>
<b>9:20 - 10:30</b>	<b>MAT120 AB114</b>		<b>MAT120</b>		<b>MAT120</b>
<b>10:40 - 11:50</b>	<b>MAT305 AB114</b>		<b>MAT305</b>		<b>MAT305</b>
<b>12:00 - 1:15</b>	<b>Office</b>		<b>Office</b>		<b>Office</b>
<b>1:20-2:30</b>	<b>MAT105 AB114</b>		<b>MAT105</b>		<b>MAT105</b>

**Student Outcomes**

The derivatives and integrals of exponential and logarithmic functions, trigonometric functions and their inverses, calculus in parametric and polar coordinates, an intro to differential equations and sequences and series.

Homework always consists of the first 2/3 or so of the problems in each section. So wherever we are, those are the problems to try.

Most of the material from MS121 appears in MS122. The correct use of first semester calculus concepts like the Chain Rule, integral substitution, derivative rules, and limits are required for success. Some command of trig identities would be most helpful, as well. There is no easy topic, no opportunity to slack off. Do everything you can to keep up. Use the office hours and Math Department peer tutoring.

You may have to memorize a method before you understand it. As this mysterious method gets used, the understanding will follow. Read the text. Success in this course and further mathematics courses depends the most on your sound understanding.

**Course Objectives**

Methods of integration (by parts, trig subst., more), transcendental derivatives and integrals, parametric and polar calculus, first order differential equations, sequences and series.

The professor expects written and verbal presentations of calculus solutions and properties.

The successful student will recognize the nature of the solution from the structure of the problem. This sophisticated thinking requires experience. Seeing a few problems twice a week and skimming the book right before class will not be enough effort to achieve good understanding: homework is crucial.

Homework is to be done in your notes unless the problem has been labeled as a hand-in assignment. You're the person who could get a job depending on some of this knowledge; so learn.

#### Methodology and Course Requirements

The homework for each class is student responsibility to be done in their notebooks. Students can expect at least one quiz and a test on each chapter. Each session starts with student questions, then new ideas.

#### Assessment Tools Used and Criteria for Evaluation and Grading

The final grade comes from .3 times the quiz average plus .5 times the test average and .2 times the final exam. There is a written project for a test replacement grade in April. All evaluations seek accurate mathematics, including **notation**.

The student's homework forms the backbone of MS122 because each class usually begins with the instructor's questions regarding the latest ideas in the course. We follow the textbook. Your success will be more likely if you do homework many times a week.

#### **Grading**

Attendance is crucial. The instructor has yet to meet a supergenius who learned a block of this stuff while skipping class. Tests and quizzes get handed back the next class meeting after the graded work. Your final grade is 30% of your quiz average plus 50% of your test average plus 20 % of your final exam. The letter grades follow the 80 - 82 B-, 83 - 86 B, 87 - 89 B+ pattern.

For other services: <https://www.aquinas.edu/resources>

Library: <https://www.aquinas.edu/library>

ITS help: <https://www.aquinas.edu/information-technology-services>

Rough calendar

January Chapter 1, 2

February Chapter 2 and 3

March Chapter 4 and 5

April Chapter 5 and 6.

May Chapter 7.