Math 180 + Math 18 Syllabus

Spring 2019

Math 180	**Math 18**	
Calculus and Analytic Geometry MW 6:45-8:50pm Section 12 (CRN 42876)	Essential Topics from Precalculus MW 5:30-6:35pm Section 5 (CRN 42883)	Classroom: 61-2310 davidsmath.com/math180-12

Welcome! My name is **David Beydler** and I'm looking forward to being your instructor. I have a B.S. in Computer Science from Harvey Mudd College and an M.S. in Mathematics from Cal State LA. I worked as a software engineer for a few years before teaching math at Cal State LA starting in 2008, then Mt. SAC starting in 2011. I love traveling and hanging out with my wife and two sons.
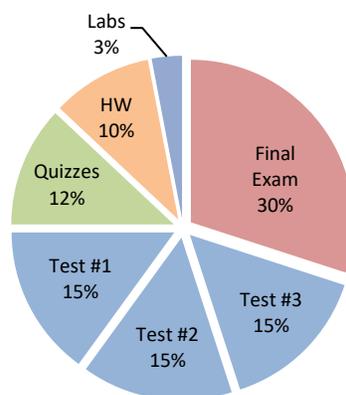
Hi!

E-mail: dbeydler@mtsac.edu
Phone: 909-274-4669
Office: 61-1608 (first floor)
Office Hours: M 4:15-5:15pm, T 9:30-10:30am and 2:15-3:15pm, Th 9:30-10:30am

MATH 180 GRADING INFO

Homework:	10%
Labs:	3%
Quizzes:	12%
Test #1:	15%
Test #2:	15%
Test #3:	15%
Final Exam:	30%

You'll get an A, B, C, D, or F
based on these overall percentages:

90-100%: A
80-89%: B
70-79%: C
60-69%: D
0-59%: F

Homework: Homework will be collected weekly. You must show work to get credit. You can turn in up to 5 packets late. Due dates will be posted on class website.

Labs: There will be 2 computer lab assignments. The software for the labs, GeoGebra, is downloadable for free at geogebra.org and is installed on the computers in the TMARC computer lab, which is located on the first floor of Building 61 (our classroom's building). Due dates will be announced.

Quizzes: We'll have 4 closed book/notes quizzes on Mar 13 (Wed), Apr 10 (Wed), May 8 (Wed), and Jun 5 (Wed). No make-up quizzes will be given. Your lowest quiz score will be dropped.

Tests: We'll have 3 closed book/notes tests on Mar 27 (Wed), Apr 24 (Wed), and May 22 (Wed). No make-up tests will be given. I'll replace your lowest test percentage with your final exam percentage (if your final exam percentage is higher).

Final Exam: The closed book/notes final exam will be cumulative and will be on Wednesday, June 12, 4:30pm-7:00pm. No make-up final will be allowed.
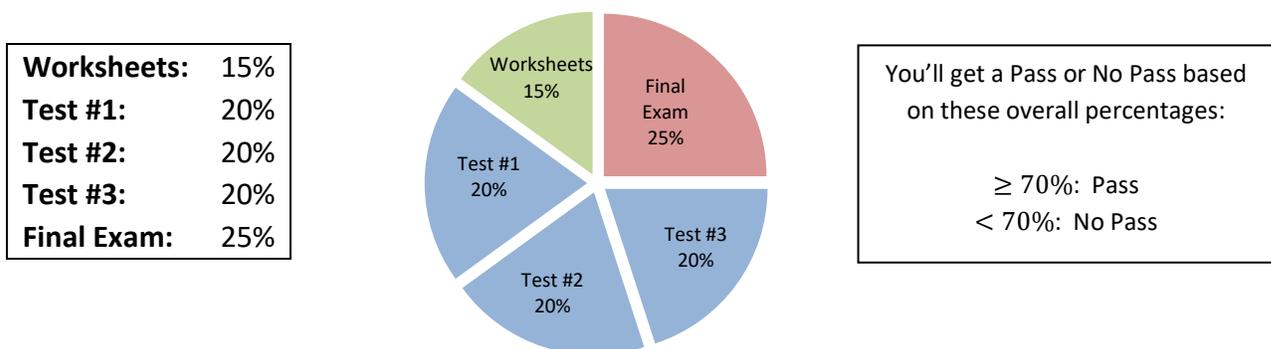
Extra Credit:

1. Scavenger Hunt & Study Plan: If you complete the Scavenger Hunt & Study Plan handout at the beginning of the semester, you'll get an extra 1% towards your first test. The due date is Mar 13 (Wed).
2. Tutoring: If you spend 8 hours at a tutoring center on campus, you'll get an extra 1% towards the next upcoming test (including the final exam). The main free math tutoring centers on campus are:
   - TMARC (Transfer Math Activities Resource Center) – Building 61, 1st floor – mtsac.edu/marc
   - ASAC (Academic Support & Achievement Center) – Building 6, 1st floor – mtsac.edu/asac
3. Review Exercises: Before each test and the final exam, I'll give you a set of review problems to work on. They'll be due at each test, and depending on completeness and neatness can be worth up to 2% extra credit towards that test (including the final exam).

HOW DOES MATH 18 WORK?

- Math 18 covers essential topics from Math 160 (Precalculus) that will help you succeed in Math 180.
- Though graded separately, you can think of Math 180 + Math 18 as a single class. Sometimes we will cover Math 180 topics during the Math 18 time, and Math 18 topics during the Math 180 time.
- There is no textbook for Math 18. All assignments will be provided as worksheets.

- Math 18 topics will be treated as review. There might be short lectures on these topics, but most of the time will be spent on worksheets and other activities.
- If you pass Math 18, you cannot retake it.
- Math 18 and Math 180 must be dropped together.
- Math 180 + Math 18 is not recommended for students who have never taken a precalculus class, students who received a C in Math 150, or students who repeated Math 150.

MATH 18 GRADING INFO

Worksheets:	15%
Test #1:	20%
Test #2:	20%
Test #3:	20%
Final Exam:	25%

You'll get a Pass or No Pass based on these overall percentages:

$\geq 70\%$: Pass
$< 70\%$: No Pass

Worksheets: Worksheets will be worked on in class. If not completed in class, they will be completed at home. Incomplete worksheets will not be accepted. Due dates will be posted on class website.

Tests: We'll have 3 closed book/notes tests on Mar 20 (Wed), Apr 17 (Wed), and May 15 (Wed). No make-up tests will be given. I'll replace your lowest test percentage with your final exam percentage (if your final exam percentage is higher).

Final Exam: The closed book/notes final exam will be cumulative and will be on Monday, June 3, 5:30-7:00pm. We will spend Monday, June 10, 7:30-10:00pm reviewing for the Math 180 final exam.

GENERAL POLICIES

Calculators: You'll need a *scientific* calculator for certain parts of the homework, quizzes, tests, and final exam. You will not be allowed to use any other electronic devices, such as cell phones, graphing calculators, computers, smart watches, etc. If you're not sure, check with me ahead of time whether your calculator is acceptable or not. You will not be allowed to share a calculator during quizzes, tests, and the final exam.

Classroom: My goal is to keep the classroom environment focused on learning math—after all, that's what you signed up for! So, the basic rules are:
- Don't disrupt others during class.
- Respect everyone in the room.
- Eat before or after class, or during breaks.
- Turn cell phones off/silent and put them away.
- Show up on time.
- Stay positive and work hard. You can do this!!

Expectations: To be successful in Math 180 + Math 18, you'll need to put in time outside of class. The expectation is 1 hour in class = 2+ hours studying outside of class. You can get help during my office hours, at tutoring centers, and from classmates/friends.

Accommodations: Students requesting accessibility accommodations should be sure to contact the Accessibility Resource Centers for Students (mtsac.edu/access). Also, please feel free to stop by my office so we can discuss your particular learning needs.

Academic Honesty: Don't cheat. It's wrong and it's not worth it. I will follow the policy as outlined in the school catalog (see mtsac.edu/catalog), and will report any student misconduct to the Office of Student Life. Also, you'll receive a zero score on the assignment/exam.

STUFF TO GET

1. 3-ring binder (*1.5-inches* or more is best if you keep everything in it—trust me)
2. Scientific calculator
3. Pencils and erasers
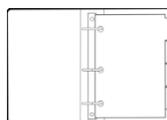
FAQ

Q: Do you offer make-up exams?
A: No. However, if you miss a test for any reason, I'll replace the test with the final exam percentage.

Q: Will I need Scantrons?
A: Nope.

Q: Will the final exam cover everything?
A: Yep.

Q: How do you pronounce your last name?
A: The "Bey" is pronounced like "Bye!" But don't worry about this!

MATH 180 MISCELLANEOUS

Textbook: *Calculus* (Early Transcendentals, 8th Edition), Stewart.

Prerequisites: MATH 160 or appropriate placement

Description: Differential and integral calculus with applications. Functions, limits, the derivative, curve sketching, optimization, rules for differentiation of algebraic, exponential, logarithmic, and trigonometric functions with their inverses, with applications. Indefinite and definite integrals.

Objectives:
1. Represent functions verbally, algebraically, numerically, and graphically. Construct mathematical models of physical phenomena. Graph functions with transformations. Use logarithmic and exponential functions in applications. Solve calculus problems using a computer algebra system.
2. Prove limits using properties of limits and solve problems involving the formal definition of the limits. Solve problems involving continuity of functions. Evaluate limits at infinity and represent these graphically. Use limits to find slopes of tangent lines, velocities, other rates of change, and derivatives.
3. Compute first and higher order derivatives of polynomial, exponential, logarithmic, trigonometric, and inverse trigonometric functions. Evaluate derivatives using the product, quotient, and chain rules and implicit differentiation.
4. Apply derivatives to rates of change and related rates problems, linear approximations and differentials, increasing and decreasing functions, maximum and minimum values, inflections and concavity, graphing, optimization problems, and Newton's Method. Apply the Mean Value Theorem in example problems. Use L'Hospital's Rule to evaluate limits of indeterminate forms. Use a Computer Algebra Systems in applications of calculus.
5. Evaluate indefinite integrals and definite integrals using limits, then later using the Fundamental Theorem of Calculus. Evaluate integrals using the substitution rule and integration by parts.

Student Learning Outcomes:
1. Students can differentiate algebraic and transcendental functions.
2. Students can solve optimization problems.
3. Students can compute instantaneous rates of change in applications.
4. Students can evaluate integrals of elementary functions using the method of substitution.

MATH 18 MISCELLANEOUS

Description: Support will focus on essential precalculus skills needed for success in calculus. Course is for students concurrently enrolled in Calculus and Analytic Geometry (Math 180) Precalculus review topics include basic functions and transformations, equations of lines, difference quotients, asymptotes, absolute value inequalities, zeros of polynomial functions, function composition, applications of geometry and Pythagorean theorem, areas under curves using geometric formulas, sequences and series.

Objectives:
1. Graph functions using transformations on elementary functions.
2. Analyze functions, including sign testing, intervals of increase and decrease, and zeros.
3. Simplify complex expressions commonly encountered in limits and derivatives.
4. Create mathematical models commonly used in calculus.
5. Set up, analyze, and evaluate series.

Student Learning Outcomes:
1. Students feel that Math 18 has improved their overall mathematical understanding and ability in Math 180. (measured by survey)
2. Math 18 students will be able to construct mathematical models that are used in optimization and related rates problems.
3. Math 18 students will be able to analyze functions, including sign testing, intervals of increase and decrease, and zeros.
4. Math 18 students will be able to simplify complex expressions commonly encountered in limits and derivatives.

Note: Any of the information in this syllabus could change anytime. I'll try to e-mail important announcements and post them on the website, but ultimately you are responsible for announcements made in class. So, I'd recommend getting the phone number and/or e-mail address of a classmate or two.

Name: _____   Name: _____

Phone: _____   Phone: _____

E-mail: _____   E-mail: _____