San José State University

Department of Mathematics and Statistics

Summer 2019

Math-19: Precalculus
Section 01

Course and Contact Information

Instructor:	Jeffery Cavallaro
Office Location:	Duncan Hall 209 (the TA room)
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Office Hours:	F 9am–noon
Class Days/Time:	MTWR 9–10:40am
Classroom:	MacQuarrie Hall 320
Prerequisites:	Math Enrollment Category M-I, M-II, or M-III; or MATH 001 with a grade of C- or better.
Corequisite:	Math-19W (the workshop)
GE/SJSU Studies Category:	Area B4

Course Description

Preparation for STEM calculus: polynomial, rational, exponential, logarithmic and trigonometric functions; analytic geometry.

Course Learning Outcomes

Upon successful completion of this course, students will be able to:

- Understand and explain the concept of a function.
- Recognize and transform a set of standard functions.
- Perform function arithmetic, including composition.
- Understand the concept of and determine an inverse for a function.
- Factor, analyze, and sketch polynomials.
- Understand exponential functions and their applications to growth and decay.
- Use the properties of logarithms.
- Recognize, analyze, and sketch the basic trigonometric functions and their inverses.
- Solve problems using right-triangle trigonometry, including the laws of sines and cosines.

- Recognize and use trigonometric identities and double, half, and product-sum formulas.
- Solve basic systems of equations using substitution, elimination, and matrices.
- Recognize, analyze, and sketch conic sections, including circles, parabolas, ellipses, and hyperbolas.

Required Texts/Readings

Corequisite

The workshop (Math-19W) is a corequisite for this course. Workshops are designed to help students succeed in Math courses. In a typical workshop, students work together in small groups on problems and projects to help them better understand concepts covered in the class. The workshop will meet in Sweeney Hall 348 on MTW 11am–12:15pm. Your workshop coordinator will be Ishant Sharma.

Textbook

Precalculus: Mathematics for Calculus, Stewart/Redlin/Watson, **7th edition**, ISBN: 978-1-305-07175-9. Book and/or ebook is fine (your preference) and we *will* be using it in class and workshop. If using the ebook then make sure that you have a device on which you can access it during class.

Web

We will use both canvas and webassign. All class communications, including written homework assignments and grades, are via canvas (`sjsu.instructure.com`). Webassign (`webassign.com`) will be used for the major portion of the homework (see below). Once you are registered for the course you should be able to see the course listed on your canvas account. Each student must purchase a webassign license (usually good for one year). The necessary webassign class code is posted in a canvas announcement and will be announced on the first day of class. Once you register your license, you will need this class code to access the class.

Calculator

You must have a TI-84 graphing calculator for use on homework and exams. I have no problem with you checking your answers on homework and exams using your calculator; however, answers with no supporting work will receive zero credit. *No cell phones, tablets, or computers are allowed in lieu of a calculator!*

Course Requirements and Assignments

Time

You will need to spend a *minimum* of 15 hours per week outside of class doing homework and studying. This class is *very* intensive and condensed for the Summer, so it requires *extremely* disciplined study habits. Please, please, please do *not* register for any other Summer classes or

commit to a demanding Summer job; if you do then your chances of passing this class drop dramatically.

Reading

Reading from the textbook will be assigned each day in class and will prepare you for the next day's lecture and workshop. Please read everything, not just the stuff in the boxes, and make sure that you can work all of the example problems prior to attempting any of the homework problems.

Web Homework

The web-based homework will be submitted via Webassign. Due dates, which occur frequently, are listed with the assignments. Webassign requires that you format your answers with math symbols using their answer tool. Don't get frustrated! It may take a couple times for you to get the hang of it; it will get easier the more you use it. The problems assigned on Webassign are problems from the book; however, the software may change some of the values involved. Since you will spend most of your time on this homework, it constitutes the largest percentage of your grade. So don't fall behind because there are *NO* extensions.

Written Homework

In addition to the web-based homework, there are 10 smaller written homework sets. Whereas the web-based problems are typically based on single concepts, the written homework problems will combine concepts and will need a little more thought. Homework will be assigned each Monday and is due on the following Monday by 9:00am (start of class). Late homework will not be accepted. See *Homework Rules* for more information.

Exams

There will be one midterm and one comprehensive final exam. The exam schedule is as follows:

Midterm	Wednesday, 7/3
Final	Friday, 8/9

Prior to an exam, I will post an announcement on canvas telling you exactly what to expect on the exam. All exams are closed book and closed notes. A calculator (as described above) is allowed; however, any answers without supporting work receive zero credit. You are allowed one letter-size cheat sheet (front and back).

Determination of Grades

Your semester grade is determined as follows:

Webassign Homework	40%
Written Homework	20%
Midterm Exam	20%
Final Exam	20%

A	90–100
B	80–89
C	70–79
NC	< 70

A grade of C or higher fulfills the Area B4 GE requirement. Students receiving a C may register for Math 30P. Students receiving an A or B may register for Math 30.

Course Content

We will cover materials from chapters 1–7, 10, and 11 as follows:

Week	Sections
1	1.1–1.5
2	1.7–1.12
3	2.1–2.7
4	3.1–3.4, 1.6 and 3.5 (time permitting)
5	3.6–3.7, 10.1–10.3
6	2.8, 4.1–4.7
7	11.1–11.4
8	5.1–5.6
9	6.1–6.6
10	7.1–7.5

Please note that this schedule may adjust due to time and class pace.

Classroom Protocol

Attendance

I will not take attendance after the first week; however, it is important that you come (on time) to every class. The book has more information than we could possibly cover, so I will highlight in class what is important. Bring your book and calculator to every class meeting. If you miss a class, it is your responsibility to talk to your peers and find out what you missed.

Holidays

Class will not meet on Independence Day (7/4).

University Policies

Per University Policy S16-9 (`http://www.sjsu.edu/senate/docs/S16-9.pdf`), information relevant to all courses: academic integrity, accommodations, dropping and adding, consent for recording of class, etc., is available on the Office of Graduate and Undergraduate Programs' Syllabus Information web page at `http://www.sjsu.edu/gup/syllabusinfo`. Please make sure to review these university policies and resources.