



COURSE INFORMATION

Course Number and Name:	MATH 2114: Honors Analytic Geometry & Calculus I (A)
Section:	304
CRN:	20803
Start Date:	Tuesday, January 14, 2020
End Date:	Sunday, May 10, 2020
Format:	Classroom

CLASS MEETINGS

Day(s) and Time(s):	Tuesday & Thursday, 11 am to 12:50 pm
Campus and Room #:	Southeast Campus / 8241

Welcome!

Welcome to Honors Analytic Geometry & Calculus I. Think of this syllabus as a handbook for the course that you'll continually refer back to. I've included tips for success, and information about why the course is structured the way it is. The second to last page of the syllabus is a tentative course calendar, and the last page of the syllabus is one-page summary of the most important information. You may want to print the last two pages, and keep them in the front and back cover of your binder.

CONTACTING YOUR PROFESSOR

Instructor: Sasha Townsend

Campus/Office #: Southeast Campus / 8148A (Just around the corner from the SEC Math Lab)

Office Hours:

Phone: 918-595-8659 **Rather than calling me, please use email or the **Remind** app to get in touch with me.*

Email: Sasha.Townsend@tulsacc.edu

Remind class code: @SP20Honors

The best way to reach me is through *Remind* and email, and I ask that you use your TCC email address when sending messages. **Please include your full name and MATH-2114-304 in your message.** I will return your message within 24 hours during the week. Emails and texts received Friday through Sunday will be answered the next business day.

Note that emails sent through Blackboard are automatically "do-not-reply" emails. If you receive an email from me and you'd like to respond, *forward or send your response* to the email address above. If you choose "reply" in an attempt to reply to the email, your response won't reach me. For additional assistance, please stop by during office hours (see above), or use the *Remind* app with our course code. Detailed instructions for using *Remind* are posted on Blackboard.

Science and Mathematics School Office Information for Southeast Campus

Campus/Office #: Southeast Campus Room 8125

Phone: Southeast Campus 918-595-7742

STUDENT SUPPORT:

Campus Security: 918-595-8888

TCC Technical Support:

Call2000 at 918-595-2000 or email call2000@tulsacc.edu for help with technology, such as Blackboard, TCC email, or MyTCC. Technology issues are not an excuse for failing to complete an assignment on time.

Microsoft Office

If you do not have Microsoft Office (Word, Excel, PowerPoint, etc.), you can download it from MyTCC on the My Account tab. Look for the “Student Software Downloads” link in the Student Quick Links box.

Academic & Student Services:

Information about [Student Resources](#) is available on the TCC Website and Safety and Wellness information is available on the [MyTCC Safety and Wellness](#) page.

TCC Math Help Available at the TCC Science and Math Learning Labs:

TCC Math Learning Labs offer: free tutoring help, computers with internet access, handouts, calculator help, other learning aids, and a place to study mathematics by yourself or with classmates. You can also borrow calculators from the lab (some collateral is usually required). Please take advantage of these free facilities. Hours of operation vary from campus to campus and also by semester; call the individual lab for their hours or go to [Tutoring Services](#) and scroll down to Science & Math. Campus locations and campus maps can be found at: <http://www.tulsacc.edu/campus-locations>

METRO CAMPUS: The Math Lab is in room MC315, phone 918-595-7965.

NORTHEAST CAMPUS: The Math Lab is in the FACET Center, phone 918-595-7592.

SOUTHEAST CAMPUS: The Math Lab is in room SE8150, phone 918-595-7751.

WEST CAMPUS: The Math Lab is located in the Technology Learning Center in the Information Commons building, phone 918-595-8196.

COURSE DESCRIPTION AND PREREQUISITIES: *What this course is all about*

When you go to “The Big University” (TBU) and on to your career as mathematician, scientist, or engineer, you’re going to want to know what you’re doing. My goals are to provide an educational experience that prepares you for Calculus II, Calculus III, Differential Equations, and upper division coursework in STEM, through solving challenging problems, and exploring beautiful abstract concepts and elegant real-world applications of calculus.

In this course, you’ll see why people often call calculus the language of science. First, we’ll study limits and we’ll discuss how limits make all of calculus possible. Then, we’ll spend some time exploring the tangent line problem, and how to measure the rate of change of some function at an instant. After discussing this fundamental idea, in what’s called differential calculus, and all of its very practical and beautiful implications, we’ll pivot to explore what seems to be an unrelated problem: how to find the area of a region with a curved boundary. Surprisingly, we’ll find that the tangent line problem and the area problem are linked, by something called the Fundamental Theorem of Calculus. Throughout our explorations, you’ll be finetuning your algebra and trigonometry skills. You’ll think critically about what these objects mean when we apply the ideas to real-world problems. You’ll master the foundations of Calculus I so that you’re prepared to tackle the next set of big ideas in Calculus II. The exploration of beautiful mathematics will help you to grow as student scientist while preparing you for your academic career, and your career outside of the classroom.

When you move on to TBU, my goal is for you to have the skills you need to succeed there, without having to relearn yourself calculus while you’re taking your third- and fourth-year engineering courses. This course is designed so that if you do your part, everything you’ll need to know will stick with you for the next several years. In the process, you’ll develop the skills, persistence, and confidence to tackle challenging problems and understand beautiful abstract concepts, while learning how to articulate and explain what you know and how you found your answers – which is precisely what you’ll be doing in your career as a STEM professional.

TCC Course Catalog Description: *TCC’s short, formal description of the topics covered in our course*

Limits and continuity; differentiation including transcendental functions; applications of differentiation including related rates, optimization and curve sketching; integration including the substitution rule; the fundamental theorems of calculus; and applications of integration to computation of areas.

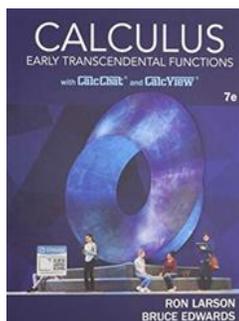
Course Prerequisites: Prerequisites: [MATH 1613](#) or [MATH 1715](#) with a grade of “C” or better, or appropriate placement.

Next Course in Sequence: MATH 2124 Analytic Geometry and Calculus II (A)

TEXTBOOKS, SUPPLIES, & OTHER RESOURCES:

Required Materials: A WebAssign access code is **not required for this course**. You will need access to a textbook, which may be a physical text or an online eText. The interactive eText for the Larson book is excellent, however, the homework problems in the eText are different from the problems in the physical text. While the discussion is equivalent, the problem sets for the texts are unfortunately not interchangeable. Whichever you prefer, be sure that you have a textbook *that you will actually read*. Some students choose to purchase an older edition to use as a reference throughout their academic career.

In addition, we'll be reading *Infinite Powers* by Steven Strogatz. His book is written for the layperson with no more than a high school algebra background. I think you'll see that Dr. Strogatz helps bring the subject to life in a way that the academic calculus texts traditionally do not.

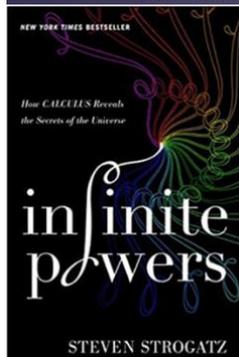


Title: *Calculus Early Transcendentals*

Edition: 7th Edition (2018)

Author: Larson/Edwards

Publisher: Cengage Learning



Title: *Infinite Powers: How Calculus Reveals the Secrets of the Universe*

Edition: 1st edition (2019)

Author: Steven Strogatz

Publisher: Houghton Mifflin Harcourt

Purchasing Textbooks and Supplies

- You may purchase WebAssign access, a physical textbook, or both at the TCC Bookstore (on campus or at the online bookstore). **WebAssign access is not required for our course.**
- You may also purchase an access code via the WebAssign website. It can be purchased for immediate use using a credit card or PayPal. On WA, you'll have access to an eText and other online help features.
- You can also do a search online to find the **physical** textbook for sale or for rent.

Calculator Policy:

CAS calculators, cell phones, or online calculators (outside of WA) may not be used on quizzes or the final exam. The Fundamentals of Engineering Calculator policy will be used in our course. (<http://ncees.org/exams/calculator-policy/>) I use a Casio FX-115 ES Plus, but many students prefer the TI-36X model. Visit the website for a list of permitted calculators.

Visualization of Functions and Relations:

We will use [Desmos.com](https://www.desmos.com) to graph functions and regions in class. If you own a graphing calculator, you're welcome to use it too, although you don't need to buy a graphing calculator if you don't already own one. You're encouraged to use technology to visualize those functions that we cannot graph using the techniques taught in precalculus.

That being said, it's important that we know the properties of the functions discussed in college algebra. In this course, we're building a set of tools that will allow us to graph the functions ourselves, with no more than a pencil and a sheet of paper. Keep that in mind as you use technology. Technology should enhance your understanding, but it should not be used as replacement for foundational skills.

Computer Access:

It is beneficial if you have regular (daily) computer access. Public computers at TCC or other public access areas can be used. TCC Math Labs and Libraries have extended hours and computers for your use. Please be aware that using public computers may be a hardship.

Incident Weather: If extreme weather conditions or emergency situations arise, TCC gives cancellation notices to radio and television stations. If TCC is open, I will make every effort to hold class, although assignment deadlines may be changed. Assignments planned for that day may be postponed to the following class meeting. If the college is closed due to weather, check your TCC email and our course's blackboard website for announcements and at-home assignments.

LEARNING OUTCOMES:

Institutional Learning Outcomes: *What you'll know as a TCC graduate*

Tulsa Community College graduates value cultural diversity, ethical behavior, and the unique role of public education in sustaining a free society. The following institutional learning outcomes function independently and in concert. TCC graduates demonstrate: 1. Communication Skills; 2. Critical Thinking; 3. Personal Responsibility; and 4. Social Responsibility.

Program Learning Outcomes: *What you'll know when you successfully complete a TCC degree program*

To access program learning outcomes specific to your degree or certificate, go to the [online catalog](#) and click Programs, then select your program from the list and scroll down to Program Learning Outcomes.

Course Learning Outcomes: *TCC's goals for you. What you'll know when you successfully complete this course*

Students will be able to:

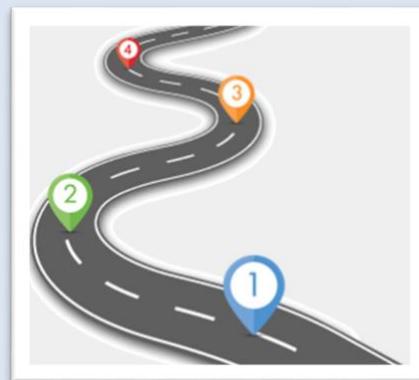
1. Find limits of algebraic and transcendental functions algebraically, graphically, or numerically.
2. Find derivative of algebraic and transcendental functions.
3. Solve derivative applications.
4. Antidifferentiate and integrate algebraic and transcendental functions.
5. Solve integral applications.

TEACHING METHODS & THE LEARNING PROCESS:

How you'll learn material in Calculus I for the first time

Each week, the material will be presented in an **interactive lecture format** and through **supplemental online videos**. You'll take notes, and study your notes and examples from class as you begin your at-home practice, textbook problems and conceptual questions. **Textbook problems** will stretch you, and give you the opportunity to practice and apply what we've discussed in class, and **conceptual questions** will ask you to articulate what you know.

After lecture, you'll have the opportunity to practice what you've learned through **cooperative learning activities**. This is your opportunity to practice with my help, and improve your skills by teaching and learning from each other.



In addition, assigned readings from articles and supplemental texts will help you and your classmates understand the big picture and connect the ideas we're studying in a comprehensive picture of calculus. This is a change from the traditional course, and is one part of what makes the honors section different from the regular calculus course.

Because this is the first time I've taught the honors section in several years, we have some flexibility in where we choose to focus. I have some ideas in mind and we still have to cover the core content of calculus I, but I hope to let you and your classmates lead our explorations beyond the core content. With that in mind, the tentative schedule is likely to change much more than it would in the traditional course. We're going to be flexible. I hope that you're comfortable with that flexibility.

Assessment, Feedback, Study, Repeat

Every week or so, you'll have a quiz over the material covered the previous week. The problems will be similar to those worked in class, and those on the quizzes from previous semesters. I'll do my best to grade your quizzes and return them within two weeks. If you'd like to improve your grade, you can study the material, ask questions, and take a more thorough reassessment quiz during office hours. Through this process of getting feedback, learning from your mistakes, and focusing on that material that you don't understand, you'll improve your skills and grow.

This course is designed with your growth and learning in mind. I hope you'll bring your curiosity, a growth mindset, and your personal strategies for learning and success to make the most of this learning experience for yourself and your classmates. The course is challenging because we're likely to find the limits of what you know. Our goal is to identify those areas for growth and then give you the tools and opportunities you need to expand your understanding in those areas.

ETIQUETTE

Let's show respect for each other, and the classroom as a whole. We learn more when we're relaxed, open, and respectful to ourselves and each other. Any student found to be a disruptive participant either through language, action, or other means may be asked to leave class. Depending on the severity of the action, students may be withdrawn from the class itself and be referred to the Dean of Students office for additional discipline.

GRADING POLICY & ASSIGNMENT LIST: *How I will assign your final grade in the course*

Grades for this course will be assigned according to the following table. Each of the assignment categories shown below will be described more explicitly in the next section.

CATEGORIES WITH THEIR ASSIGNMENTS	CATEGORY AVERAGE	%
Homework: Homework is due on the date of the corresponding quiz, and includes conceptual questions and textbook problems. These are paper-based assignments, and are graded for completion and neatness, on a 4.0 scale.	$\frac{\text{Sum of HW scores}}{\# \text{ HW scores}}$	5%
Standards Quizzes: 31 standards graded on a 4.0 scale.	$\frac{\text{Sum of Standards scores}}{\# \text{ Standards scores}}$	75 %
Comprehensive Final Exam: Final exam covering a subset of the course standards, with each standard graded on a 4.0 scale	$\frac{\text{Sum of Standards scores on Final}}{\# \text{ Standards scores on Final}}$	15%

CATEGORIES WITH THEIR ASSIGNMENTS	CATEGORY AVERAGE	%
Extra Credit: Extra credit will be available for participating in activities and completing extra projects or assignments	<i>Sum of Extra Credit Points</i>	0.5% Per Point
Differentiation Exam: A 10-question pass/fail exam over basic differentiation rules up to and including the chain rule. This exam ensures that you have the differentiation skills you'll need for success in future courses. If you fail this exam, your grade will be lowered by one letter grade.	Pass (9 or 10 out of 10) / Fail (8 or lower)	
TOTAL		100%

Provided you pass the differentiation exam, your overall grade will be computed using the following formula:

$$\text{Final Grade} = (\text{HW Avg})(0.05) + (\text{Standards Avg})(0.75) + (\text{Final Exam})(0.15) + (\text{Extra Credit})(0.02)$$

GRADING SCALE: Your final grade in the course will be assigned based on the following scale:

Grade:	A	B	C	D	F
Averages:	3.35-4	2.8-3.34	1.8-2.79	0.8-1.79	Below 0.8

FEEDBACK PLAN: I will do my best to get all quizzes graded with detailed, personalized feedback and returned to you one week after the quiz was taken, two weeks maximum. Your homework will be graded during the corresponding quiz. During the last two weeks of class, it may take me longer to get graded work back to you. Your current homework average and standards average will be listed in columns in the Blackboard gradebook.

How To Calculate Your Current Grade in the Course

$$\text{Current Average} = \frac{(\text{HW Avg})(0.05) + (\text{Standards Avg})(0.75) + (\text{Extra Credit})(0.02)}{0.85}$$

COURSE REQUIREMENTS AND ASSESSMENTS: *How you'll learn and how we'll know that you're learning...*

The course requirements listed below – problem sets, conceptual questions, quizzes, final exam, differentiation exam, and in-class activities– are designed to assist you in learning calculus and to help us assess your learning.

HOMEWORK – PROBLEM SETS & CONCEPTUAL QUESTIONS

Purpose of Homework

Each homework assignment consists of two parts, written conceptual questions and textbook problems. Each part serves a different purpose.

Purpose of Conceptual Questions: We often learn best through teaching others, and articulating what we know. Conceptual questions help you focus on the facts, concepts, and techniques that are most important, show you gaps in your understanding, and allow you to look up important information to fill in the gaps. In math, it can be easy to get lost in the details. When you're articulating your answers to conceptual questions, you make connections between concepts. Students tell me that the textbook problems are easier when they've answered

conceptual questions first. Trust me; it's not busy work. Doing this will help you focus on the big picture and organize what you know.

Purpose of Textbook Problems: Practice outside of class is the only way to internalize techniques and concepts. After completing several problems with a given method, the method will come more easily. Through working a variety of problems, you'll learn through experience how the methods and concepts we've studied apply to different functions. In addition, you'll be preparing for your careers in STEM by learning to communicate solution methods using correct notation and terminology. It's important that you learn how to document your solutions in ways that your colleagues can understand. I ask you to keep a **homework journal** of the problems and solutions. The format of these assignments is described on the pdf of the homework assignment, which will be posted on our Blackboard site.

Homework helps keep you accountable, by requiring you to practice what we've studied in class. If you keep up with homework, you'll have the mathematical foundation to understand the current lecture. My A students tend to be those students that keep up with homework, and complete the homework before the corresponding quiz.

Tasks for You to Complete: A coversheet listing the conceptual questions and textbook problems for each assignment will be available for download on Blackboard. You'll submit your conceptual questions and written solutions in a **Homework Journal**, a three-ring binder, with your most recent assignments toward the front of your binder. Your assignments should be neat, easy to read, professional looking documents, with a logical justification for your solutions.

Some students choose to type the solutions in a Word document, using Word's equation editor toolbar for the mathematics. (I use Word to create the majority of the notes and handouts for my courses). Some students choose to hand-write their answers to conceptual questions, homework problems, or both. Either one is fine with me, as long as you create a professional-looking document.

Criteria for Success: Your conceptual questions and homework journal will be graded for presentation and completion during the quiz covering the associated material. **If you can't afford a binder, come see me and I'll give you a used one.** You will pick up your homework journal with your graded assignment after the quiz, or at the end of class.

- You will earn **full credit (4 points out of 4 points)** if you completed all conceptual questions and shown your work on 80% of the assigned problems.
- You will earn **half credit (2 points out of 4 points)** if you completed only conceptual questions, or only your homework journal, or about half of each.
- If you need more time, turn in your homework binder during a future quiz, and leave a note in your binder requesting that I check certain assignments. For example, if you'd like me to check HW #3, write "Please check HW #3" on the page for the current assignment due.

Do all of your homework ASAP, so that the current lecture makes sense to you, so that you don't fall behind, and so that you get the necessary practice to learn the concepts and techniques we've discussed in class. Your homework score comprise 10% of your grade in the course. This may not seem like much, but 10% is the difference between a letter grade and another – and the practice will help you to be successful on your quizzes.

IN-CLASS ACTIVITIES

Interactive lectures, class discussions about assigned readings, think/pair/share small group, and individual problem solving will allow you to practice what you've just learned and allow both of us to determine what you know. Try not to get discouraged if you find the activities challenging. Most students do. It's better to be challenged in class, so that you can get your questions answered immediately than to struggle over the same problems at home. Think, "I don't know how to do this yet, but I'm going to try, find out what I know, and find out what I need to learn." Everyone has gaps, and

practice really does make perfect if your practice includes monitoring your own learning and learning from mistakes and feedback.

STANDARDS QUIZZES

Your quizzes will be graded differently. There will be a quiz every week or so, and a comprehensive final exam, over certain mathematical concepts and techniques called standards. This assessment method is called Standards Based Grading (SBG). I use SBG because this grading system makes grades more meaningful. Rather than giving you a 75 on a test over a chapter, which may include 8-10 major concepts and techniques, I assign individual grades on each concept and technique (which we are calling a standard). The gradebook will show us both what you know, and what you need to work on. SBG also gives you the incentive and motivation to study and improve your skills. By breaking the course into approximately 30 standards, each individual score is more meaningful, and ties grades (which are a big concern of most students) to the measures of actual learning.

The standards on each weekly quiz will be announced in class. The tentative schedule includes quiz dates and standards. Those dates are likely to change as the semester progresses. A detailed description of each standard and the grading rubric is provided in the **Course Standards & Rubric** document. Each in-class quiz will cover 2 to 5 standards. (The last quiz has five standards on it, but most quizzes cover 2-3 standards.) For each standard, I'll assign a grade on a GPA-style scale of 0 through 4. Four is an A, 3.5 is an A-minus, 3 is a B, 2 is a C, 1 is a D, and 0 is an F. Your standards scores comprise 75% of your overall grade in the course. A key component of SBG is the ability to improve your grade through reassessment. After taking a quiz, if you decide that you'd like to improve one of your grades, you study your notes, review the feedback I gave you, ask questions, and try again on a new set of problems. In this way, we'll use your quiz scores to assess your current understanding of the material.

How Should I Prepare for a Quiz?

- **Read the standard description**, study the corresponding concepts, review and rework problems from lecture.
- The examples worked in lecture are a better representation of the appropriate difficulty level for quiz problems. Study the problems from class, similar problems from the homework, and problems from the quiz problems from a previous semester. The format will be the same, and the quizzes will cover the same concepts, but you'll be applying those concepts and techniques to new functions and new problems.
- If you're taking a reassessment, be sure to **read and learn from the feedback I gave you**. If you don't understand it or need help reviewing, come see me during office hours.

FINAL EXAM

There will be a comprehensive final exam that contributes 15% toward your course grade. This will allow you to connect ideas and review the most important material you've studied this semester. A list of standards that may be covered on the final will be announced in class. You will be graded on each standard on the final, and those grades will be averaged to determine your final exam grade.

DIFFERENTIATION MASTERY EXAM: *A mastery exam, ensuring that you have the skills you need for later courses*

A ten-question differentiation exam will be administered in class. For practical reasons, the in-class administration of this exam is necessarily timed. The exam will cover basic differentiation rules including basic differentiation rules and the chain rule. You must earn a 9 out of 10 or higher in order to pass this exam. You may take the exam up to once per day during office hours Monday through Thursday after it has been administered in class. A passing grade on this exam demonstrates mastery of the techniques you'll need for success in future coursework.

You'll have two opportunities to pass the exam in class. For each in-class attempt, you'll have approximately 20 minutes. If you do not pass by the end of the semester, your final grade in the course will be lowered by one letter grade. For example, if you earn a C on your other coursework, but you're unable to consistently and correctly compute derivatives, you'll earn a D in the course. This exam is my way of ensuring that you have the differentiation skills you need to be

successful in Calculus II, Calculus III, and Differential Equations.

REASSESSMENT

Once you attempt a standard, your score will be recorded. Your most recent score counts toward your average. Older scores are discarded. If you would like to improve your grade and your understanding of calculus, you can reassess on any standard outside of class. In other words, if you want to turn a C into an A, for example, you can re-attempt that standard by taking a reassessment quiz.

Facts & Guidelines About Reassessment

- Every standard will be assessed once during an in-class quiz.
- Each quiz covers 2 to 4 standards.
- Reassessments take place during office hours Monday through Thursday.
- No more than two reassessments may be taken per week. It's to your benefit to reassess early.
- Study for the reassessment, because the most recent grade stands. With SBG, your grade can go down if you perform worse the second time around, so you'll want to be sure you're prepared before your start a quiz.
- Once you start a reassessment, you have to finish it. You can't decide that you're not ready once you've seen the problems. You must complete the reassessment and earn your updated score.
- Reassessments are more thorough than the corresponding problems on the original quiz, because you are expected to have studied that particular standard thoroughly before taking a reassessment. The problems aren't harder, but the assessment is longer.

Preparation Checklist for Reassessment

- Have you read the course standard description?
- Do you feel ready to answer related conceptual questions?
- Have you learned from your mistakes? Are you ready to tackle similar problems?
- Have you reviewed related homework problems and problems from lecture? Do you feel comfortable with your methods for solving those? Do you feel you could adequately justify your answer?
- Is there any problem you hope *won't* be on the reassessment? If so, be sure to ask!

**Please don't reassess until you're ready. Reassess early and often.
Study & prepare for the original quiz so that you don't have to reassess.
Don't procrastinate...You'll run out of weeks.**

ADVANTAGES OF SBG:

After 10 semesters using SBG, I will never go back to a traditional grading system again. There are many advantages; some are redundant, because the advantages are interrelated.

1. You have **more than one opportunity to display mastery**. There's no penalty for making mistakes, as long as you learn from them. It's also in your best interest to do well the first time, so that you don't have to reassess.
2. SBG helps you to **hold yourself accountable**. You keep up with the material, master some material early, and focus extra time on the techniques and concepts that really challenge you. You assess your own understanding and study methods, and adjust your approach depending on what works for you.
3. We assess your understanding on less material more often. In education jargon, this is called **reducing cognitive load**. Because we have frequent quizzes instead of tests, we break the material into smaller chunks, and you have less material to remember for a particular quiz.

4. The gradebook makes **your current grade and the areas you need to work on very clear**. Your overall average improves when you go back and learn the material that you didn't master the first time. The gradebook shows you what you need to study and what to do to get better.
5. SBG stresses mastery, that is, **working out problems in a completely correct way**. Because of this, grades become more meaningful. An A represents mastery, a B very good work, and a C represents enough understanding to go on to calculus II. A grade of 75 used to mean that you earned a C, but a 75 doesn't tell us what material you know, what material you struggled with, or whether you're prepared for the next course.

Your grade is entirely in your hands. I hope we'll have more conversations about math, and fewer conversations about points. Even when we discuss grades, conversations are redirected to what calculus you need to learn to bring up your grade and prepare for the final and calculus II. I don't want to give away As, but I do want all of my students to have the opportunity to earn As. With SBG, students not only earn the grades they want, but if they have the right attitude toward learning, **the students learn calculus(!)**. Even a student who earns a C in our course will be well-prepared for calculus II, calculus III, differential equations, and upper-division work.

ATTENDANCE & PARTICIPATION:

While attendance is not part of your grade, I expect you to attend class, because missing class will make the homework and quizzes more difficult. Missing class means missing the opportunity to practice new techniques and skills with my help, as well as missing the original lecture. If you are absent, it is your responsibility to download any handouts, get a copy of a classmate's notes, and complete the embedded activities you missed. You are responsible for material covered and announcements made in your absence.

LATE ASSIGNMENTS AND MAKE-UP WORK:

There are no make-up quizzes. If you are absent on the date of a quiz, you earn a zero on all standards covered on that quiz, and you can reassess according to the regular reassessment policy. Please do not skip class because you don't feel ready for a quiz. It's better to get the practice of attempting the problems to see what you know and to get my feedback than to wait until later to attempt the standards for the first time.

COURSE WITHDRAWAL:

You will be withdrawn from the class with a grade of WN for non-participation if you have not participated in the class during the first week for 8-week classes and first two weeks for 16-week classes. If you stop attending class and do not request an administrative withdrawal, I will record an F on your transcript. If you would like me to assign an AW due to extenuating circumstances, please request an AW with your explanation in writing via email. I will be happy to assign an AW as opposed to an F. See [Course Enrollment and Withdrawal](#) for information on withdrawing from a course.

ACADEMIC DISHONESTY:

[Academic Integrity](#) is a foundational value of TCC. Students are expected to behave as responsible members of the college community and to be honest and ethical in their academic work. This link provides guidelines for academic integrity, as well as forms of academic dishonesty. In case of academic dishonesty or suspected academic dishonesty, the following penalties may apply:

- If the student is suspected of cheating during a quiz or exam, a zero will be shown in the gradebook for that assignment, and all TCC testing centers will be notified about the student's past behavior.
- If the student is caught cheating, the student will have earned a grade of F at the end of the semester. Faculty will request that disciplinary action against a student at the administrative level by submitting a request to the Dean of Student Services.

Academic dishonesty isn't fair to those students who are working hard to learn the material. Please, choose to live with integrity, self-respect, and respect for others. A C that is earned is better than an A earned without integrity.

ADDITIONAL INFORMATION:

Each student is responsible for being aware of the information contained in the [TCC Catalog](#), the [Student Handbook](#), and the [Academic Calendar](#). All information may be viewed on the [TCC website](#).

SYLLABUS CHANGE:

Occasionally, changes to the syllabus may be necessary. Students will be notified of any changes to the syllabus in writing.

SYLLABUS ATTACHMENT:

The [Syllabus Attachment](#) provides critical student information for all TCC courses and is considered to be a part of this syllabus. Students are responsible for reading the statements contained within.

TENTATIVE COURSE CALENDAR: Our tentative schedule is shown below. Some changes to the schedule may be necessary. All changes will be announced in class, and posted on Blackboard.

Week Of	Tuesday	Thursday
Jan. 13	Introduction, Syllabus, An Overview of Calculus 2.1	An Overview of Calculus, Introduction to Limits 2.2, 2.3
Jan. 20	The Limit Concept, Limits Graphically and Numerically, Limits Algebraically 2.2, 2.3	Limits Algebraically, Continued 2.3, Quiz #1 (L2, L3)
Jan. 27	The Precise Definition of a Limit, Continuity, Limits of Piecewise Functions 2.2, 2.4	Intermediate Value Theorem, Limits of Piecewise Functions 2.4, Quiz #2 (L4, L5)
Feb. 3	Limits Involving Infinity 2.5, 4.5	Average and Instantaneous Rates of Change 3.1
Feb. 10	The Limit Definition of a Derivative 3.1, Quiz #3 (F6, F7, F8)	The Derivative Function 3.1
Feb. 17	Differentiation Rules and Applications 3.2, 3.3, Quiz #4 (D9, D10)	Differentiation Rules and Applications, Continued 3.3
Feb. 24	The Chain Rule 3.4, Quiz #5 (D11, D12, D13)	Implicit Differentiation and Related Rates 3.5, 3.7
Mar. 2	Derivatives of Inverse Functions and Logarithms, Logarithmic Differentiation 3.6, 3.5	Derivatives of Inverse Trigonometric Functions, Linearization, Differentials 3.6, 4.8, Quiz #6 (D14, D15, D17)
Mar. 9	Extreme Value Theorem, Mean Value Theorem 4.1, 4.2	First Derivative Test 4.3, Quiz #7 (D16, D18, D19, A21)
Mar. 16	Spring Break	
Mar. 23	Concavity and The Second Derivative Test 4.4	Curve Sketching, Optimization Review 4.6
Mar. 30	Applied Optimization 4.7, Quiz #9 (A22, A24)	Applied Optimization 4.7
Apr. 6	Indeterminate Forms and L'Hopital's Rule 5.6	Areas and Riemann Sums 5.2, 5.3, Quiz #10 (A20, A23)
Apr. 13	Areas and Riemann Sums, Antidifferentiation, DEs and IVPs 5.2, 5.3, 5.1, 5.7, 5.8	Definite Integrals and the Fundamental Theorem of Calculus 5.4, Quiz #11 (I26, I27)
Apr. 20	Antidifferentiation and Integration by Substitution 5.5	Hyperbolic Functions 5.9
Apr. 27	Review for Quiz Quiz #12 (I25, I28, I29, I30, I31)	Review for the Final Exam
May 4	Final Exam – Thursday, May 7, 2020 from 11 am to 12:50 pm in our usual classroom.	

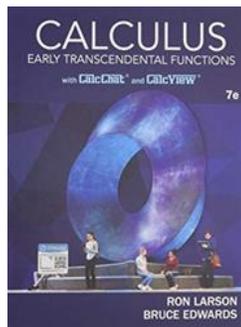
MATH 2114 – Honors Analytic Geometry & Calculus I
Spring 2020, Tulsa Community College
January 14, 2020 – May 7, 2020
CRN: 20803 / Section: 304 / Classroom Course

Ms. Sasha Townsend
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Office: SEC Room 8148A (first floor of building 8)
Office Hours: MW 1 – 3pm, TTh 5 – 7:20 pm, F 10-11 am
Remind Class Code: @SP20Honors

School of Science & Math: SEC 8125 / 918-595-7742
Campus Police: 918-595-8888 / Library: 918-595-7701
TCC Help Desk (for computer issues): 918-595-2000
WebAssign Tech Support: 1-800-354-9706
<http://support.cengage.com>

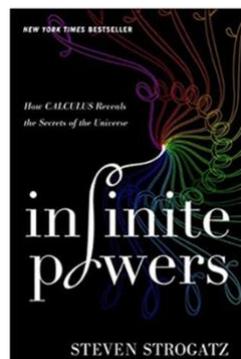
Course Description (from TCC catalog)

Limits and continuity; differentiation including transcendental functions; applications of differentiation including related rates, optimization and curve sketching; integration including the substitution rule; the fundamental theorems of calculus; and applications of integration to computation of areas.



Required Materials

Our primary text is *Calculus Early Transcendental Functions*, by Larson and Edwards, 7th edition, published by Cengage. Our second required text is *Infinite Powers: How Calculus Reveals the Secrets of the Universe*, by Steven Strogatz. You will need a scientific, nongraphing calculator.



Major Assignments

Standards Quizzes, Each standard graded on a 4.0 scale
Homework assignments, graded on a 4.0 scale
Comprehensive final exam
Pass / fail differentiation exam



MATH 2114 COURSE SYLLABUS

Spring 2020 | One-Page Syllabus Summary

Standards Based Grading (SBG)

We use SBG for assessment because it ties grades to measures of actual learning. The course is designed to help you learn from your mistakes and feedback, and develop mastery of concepts and techniques you'll need in future courses. In the process, you'll improve your grade in the course, so that your grades reflect what you know

Final Grade Calculation

'A'	3.35-4.0
'B'	2.8-2.34
'C'	1.8-2.79
'D'	0.8-1.79
'F'	0-0.79

Current Grade Calculation

Your current homework average, standards average, and total extra credit points can be found on Blackboard.

Current Grade = $[(\text{HW Avg}) \cdot (0.1) + (\text{Standards Avg.}) \cdot (0.75) + (\text{Extra Credit}) \cdot (0.02)] / 0.85$.

Evaluation Methods & Reassessment Policy

The rubric can be found on the Course Standards document. You can reassess on up to two standards per week, starting the week after I return your first quiz. Reassessments take place during office hours Monday through Thursday. You can take the differentiation exam once daily during office hours, Monday through Thursday. Homework is due on the date of the corresponding quiz.

Late Work Policy

There are no make-up quizzes. You are welcome to improve scores on missed quizzes by reassessing according to the regular reassessment policy.

Calculator Policy

You'll be permitted to use a scientific, nongraphing calculator on quizzes. You're encouraged to use graphing websites and other technology to visualize functions. Please do not use technology as a replacement for foundational skills in graphing functions.