Syllabus

Calculus and Analytic Geometry 1

Math 207 GH – Fall 2017

Course Title	Calculus and Analytic Geometry 1
Credit Hours	5
Length of Course	16 weeks
Prerequisites	Grade of C or better in Math 140 and Math 141, or Math 143, or placement test, or consent of department chair
Section	207 GH (section number: 31443)
Classes	Tuesday, Thursday, 9:30 AM – 11:50 AM in Room 3150
Instructor	Marta Hidegkuti e-mail: mhidegkuti@ccc.edu Office: Room 3812
Office Hours	Monday, Tuesday, Wednesday, Thursday 12:00 PM – 12:45 PM in Room 3812 Monday, Tuesday, Wednesday, Thursday 1:00 PM – 1:30 PM in Room 1176 (MC) Monday, Wednesday 5:00 PM – 5:30 PM in Room 3812 or by appointment. Please note that some office hours might be cancelled or re-scheduled due to meetings.

Web Sites

All handouts and announcements will be available on the class's web site, at http://www.teaching.martahidegkuti.com/Math207/math207_fa17/Math207.html. Homework will be assigned on **MyOpenMath**. The use of MyOpenMath is mandatory but it is completely free. Students can log in at www.myopenmath.com and enroll using course ID **25236** and enrollment key **Math207fall2017**.

Textbook

Due to price consideration, students are welcome to use previous editions of the official textbook, which is Calculus by Hughes-Hallett, 7th edition, Wiley, 2017 . Most topics will be covered by handouts posted on the course's web site.

Calculator

The use of a scientific calculator is strongly recommended. Students are expected to bring the calculator to class. The optimal calculator is **TI-30X II S**. The price of this model is between $15 and $20. Do NOT purchase a different calculator if it is significantly more expensive. Any calculator different from TI-30X II S has to be approved by the instructor first. If a calculator is able to compute symbolically, (f.e. that $\sqrt{12} = 2\sqrt{3}$), then it is not allowed to be used during quizzes and exams. **During quizzes and exams, students are not allowed to use a graphing calculator. Students are not allowed to use a cell phone as a calculator any time during class.**

Important Dates

First class: Tuesday, August 29	Last day to withdraw from classes: Monday, November 20
Exam 1: Thursday, September 21	Holiday, no class: Thursday, November 23
Exam 2: Thursday, October 19	Exam 4: (same as final exam) Thursday, December 14
Exam 3: Thursday, November 16	End of Semester: Saturday, December 16

Attendance Policy

Attendance is an essential part of the course. Regular attendance is expected of all students in the course. Attendance will be taken each class period. Students are expected to be on time and to attend the entire session. Please make every effort to arrive on time. If you are absent, you are responsible for all work and assignments covered in class that day.

No-Show Withdrawal (NSW)
Students who do not attend the first two class sessions will be withdrawn from the class by the instructor and issued an NSW.

Administrative Withdrawal (ADW)

Students will be administratively withdrawn at midterm if at least two of the following apply:

1. Less than 70% of quizzes and tests up to the midterm (October 22) have been attempted.
2. Less than 70% of class sessions up to the midterm (October 22) have been attended.
3. Student missed 4 consecutive classes by October 22.

Withdrawal From The Course

Not attending classes does not constitute withdrawal from the course. After midterm, instructors can no longer drop students from the course. If students stop attending classes after the midterm, the instructor can only assign a grade of F. **If you no longer attend classes, it is essential that you stop by at the registrar's office and officially withdraw from the course to protect your average.** The last day for student initiated withdrawal is Monday, November 20. Before withdrawing from the course, students are encouraged to consult the instructor.

Grading Policies

Students who register late are responsible for all course work they missed due to their absence. **All assessments (quizzes and exams) will be cumulative.** Occasionally, extra credit assignments may be assigned. In all cases, **extra credit cannot count for more than 5%** of the course grade. Please retain all class-related material until you receive your final grade for the course. The final exams will not be distributed. They will be kept by the instructor for a calendar year after the course and then they will be destroyed.

Grading Scale

Grading of all assignments, quizzes, and exams will be based on the following scale.

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

Midterm Grade

The midterm grade will be the weighted average of the grades shown below with their weights.

Exam 1: 30% Exam 2: 35% Quizzes: 35%

Before determining the grade given for quizzes, the lowest two quiz score will be dropped.

Final Grade

The final grade will be the weighted average of the grades shown below with their weights.

Exam 1: 15% Exam 2: 15% Exam 3: 20% Exam 4: 25% Quizzes: 25%

Before determining the grade given for quizzes, the lowest three quiz scores will be dropped.

Quizzes and Quiz Reviews

In this class, there will be two types of quizzes.

Online Quizzes: Quizzes 1, 3, 5, 7, 9, 11, 13, 15, 17, and 18 will be taken online, using MyOpenMath. The deadline for the online quizzes will be 11:30 PM on the night before the class as shown on the Calendar of Events. After the deadline passed, the link to the quiz will no longer be available. To practice for online quizzes, students are provided with online Quiz Reviews that can be repeated many times. These reviews cover the necessary course material and also prepare the students to give answers in the format in which MyOpenMath will accept it as correct. MyOpenMath is a free service and some of its aspects are frustrating. Students will always get credit for a correct answer. If a student thinks that their work was incorrectly marked wrong on a quiz, they should immediately notify the instructor by e-mailing to mhidegkuti@ccc.edu. The e-mail must contain the student's name, and also the quiz number and the number of the problem in question.

In-class Quizzes: Quizzes 2, 4, 6, 8, 10, 12, 14, 16, and 19 will take place during classes on Thursdays.

Please note that some of the quizzes described above may be cancelled.

Make-Up Policy

Without exception, there will be no making up quizzes. Permission to make-up an exam is subject to the discretion of the instructor, and will be granted only in cases of emergency. If an absence is anticipated, the student should notify the instructor prior to the absence. Students need to present written documentation to make-up an exam. Without exception, students can only make up one exam in the course. All make-up exams will take place on Friday, December 8.

Academic Integrity

The City Colleges of Chicago has no tolerance for violations of academic integrity., Plagiarism and cheating of any kind are serious violations of these standards and will result, minimally, in a grade of F. All course work will be checked for academic integrity. In this course, the first violation will result in an F for the assignment; the second violation will result in course failure. Make-ups and revisions are not available after an infraction of academic integrity. For further information, please refer to the Academic and Student Policy.

Students must work on their own to solve homework problems. To complete any assignment in the course with the help of software or website that solve mathematics problems constitutes cheating.

Class Room Etiquette

Respect

At all times, please treat the instructor, other students, and their opinions with respect.

Writing on or otherwise marking tables and other CCC property is prohibited and will not be tolerated. Please use paper for computations or notes. If you use the chalk board, please refrain from touching it with your hand, as the oil from our skin tends to damage the board.

Eating and chewing gum are not allowed in the class rooms. Students are allowed to eat only in designated areas such as the cafeteria or student lounge.

Avoid Distractions

Tardiness is a distraction to the learning environment. **Please make every effort to arrive on time for class.** Our class starts at 9:30. If you walk in at 9:30, you are late. At that time, students are expected to have arrived, seated, finished greeting each other, and are ready for the class to begin. If you are arriving late, please do not interrupt the class with an apology or greeting. Try to come in and join the class as quietly as you can. Students coming late are responsible for all content they have missed.

Before arriving to class, please **turn off all cell phones, pagers, and other loud devices**. The use of cell phone during class is not allowed. If you are in the habit of texting, facebooking, or otherwise entertain yourself using your cell phone, you will be asked to please put away the phone. Students are expected to pay attention to what is going on in the class, follow along, and ask and answer questions. Students do not need to raise their hand to speak. Lectures are intended to be a whole-group discussion. Please refrain from starting a parallel conversation.

Repeated noises such as sniffling, moaning or sighing are generally normal behavior but are very distracting during quizzes and exams. **Students are to refrain from making such noises during quizzes and exams.** If there is a medical reason making that impossible, the instructor must be notified in advance so that arrangements can be made for a separate room for that student.

Questions

When new material is presented, questions are welcome. It is essential that students understand the concept being covered. No questions are bad or silly!

At the beginning of class, students have a chance to ask questions about homework problems, review problems, and generally, old material. The more specific these questions are, the better. Class time is precious as there is a great deal of material to go through. If a question is as general as “Can you show again how to do this type of a problem?”, two times is the limit. If a particular concept or problem was already presented in class as new material, and presented again at the beginning of class in its entirety, it will not be presented during class for the third time. Not only we do not have the class time for this, but it is also unfair to students who understood the problem the first time around.

If you need an extensive review (for example, due to absence) of material presented in class, please see the instructor during office hours. Valuable class time can not be spent on assisting one or a few students to the detriment of the entire class. Office hours are designated to address these problems.

Quiz Reviews will be posted a week in advance. Students are expected to ask question on the class just prior to the quiz. Questions asked on the day of the quiz will not be answered.

Office Hours

Arrive to office hours prepared. If you have missed a class, be sure to obtain and read all class-related material (handouts, text book section, and class notes). Have a list of specific questions. If you need help with a problem, bring your work on the problem with you – that will greatly expedite things. After your questions are answered, please leave so that the next student can enter. Please do not bring food to the instructor's office.

Contact

At all times, email is the fastest and most efficient method to contact the instructor. If you wish to contact the instructor about grades or attendance or other administrative issues via email, please use your CCC student account. FERPA (Family Educational Rights and Privacy Act) is a federal law that protects the privacy of student educational records: www.ed.gov/policy/gen/guid/fpco/ferpa/index.html. Faculty cannot reveal information about students, or discuss student records over the phone or unsecure e-mail. CCC student e-mail meets FERPA requirements.

If a student wants to receive class-related information via e-mail to an e-mail address different from the student ccc account, they must first complete a release form posted at http://www.teaching.martahidegkuti.com/shared/resources/ferpa.pdf.

When e-mailing the instructor, please identify yourself and the class you are taking. Your instructor just met 105 new students. Please take the effort to use correct English and proper capitalization and punctuation in your e-mail correspondence. Communications such as "*can u pls reset my qz*" are unacceptable in an academic setting just as much as they would be unacceptable in a job.

Academic Support Services

The Math Center provides an open space to work on mathematics homework, emphasizing group study with roaming staff of tutors (adjunct instructors as well as student/peer tutors). One-on-one appointments are available for certain courses and circumstances. Computers, textbooks and calculators are available on site for student use.

Hours: Monday–Thursday: 9am-9pm, Friday, Saturday: 11am-4pm
Location: Room 1176, Main Building
Website: http://www.ccc.edu/colleges/truman/departments/Pages/Math-Center.aspx
Contact: 773-907-6832 – Cary Tucker, Coordinator – etucker@ccc.edu

The Tutoring Center offers 1-on-1 50-minute appointments for tutoring in Accounting & Economics, French & Spanish, Humanities, History, Adult Education: ESL Levels 1-8, GED Writing, GED Math (in English & Spanish). Students can make appointments through GradesFirst, at our front desk, by phone, or they can walk-in. Also provides Conversation Groups for ESL Levels 1-8.

Hours: Monday–Thursday: 9am-7pm, Friday: 9am-5pm, Saturday: 9am-2pm
Temporary Location*: Room 2300A, Main Building
Website: http://www.ccc.edu/colleges/truman/Pages/Search-Results.aspx?q=tutoring+center
Contact: 773-907-4785 – Raegann Caldwell, Tutoring Center Coordinator – rcaldwell1@ccc.edu

*For the first half of the semester Room 2300A, Main Building, for the second half of the semester and moving forward Room 1440, Main Building. Please stay tuned for more updates. *

Disability Access Center is located in Room 1435. The Center verifies needs pursuant to the American Disabilities Act (ADA), determines student academic accommodations, and issues accommodation letters. Registration is required at the start of each semester. (773) 907 - 4725, web site: http://www.ccc.edu/colleges/truman/departments/Pages/Disability-Access-Center.aspx

The Wellness Center is located in room 162 in the Larry McKeon Building. Services include: Personal, individual counseling, support groups, stress and time management coaching, referrals to community resources, special support for victims of relationship violence and sexual assault includes one-on-one counseling; safety planning; and referrals to medical care, legal services, and emergency child care. Contact: (773) 907-4786 for an appointment or information. Web site: http://www.ccc.edu/colleges/truman/departments/Pages/Wellness-Center.aspx

GradesFirst is a student support system that will be used by faculty, advisors and tutors to help students achieve success in their classes. Use GradesFirst to schedule tutoring or advising appointments, or to see communications about your course progress generated by me or your other professors.

Additional Resources

Open the pdf file for this syllabus to click on the links below.

Previously Taught Courses (check out my last Math 99 class if you want to study ahead!)
Lecture Notes (if you need review of Beginning Algebra)
Videos linked to the Textbook
Khan Academy
Self-Study Courses on MyOpenMath

Tips for Success

Make sure that you are enrolled into a class that you can handle. Many students fail a class because they are enrolled into the wrong course. A significant source of trouble passing Math 99 is poor placement. Despite a successful enrollment, despite a conversation with an advisor, despite a qualifying score on a placement test, many students are simply not ready for the course and need to take Math 98.

Do not take too much upon yourself. Enrolling into a 5 credit-hour class automatically means that you agree to study 10 hours per week outside of classroom. A common reason for failure is that students are taking one too many course.

Read the course syllabus! It is your contract with the instructor about how the course will go.

Attend every class and pay attention. Make sure you ask questions immediately if you don't understand what is going on. Don't wait until you get completely lost. Remember, when new concepts are presented, all questions are fair game and welcome. (Also, your instructor has a strong accent, so do not be shy.)

If students are sleep deprived, exhausted, sick, in pain, hungry, or intoxicated, they cannot learn. Showing up is not enough - you need to be mentally and physically ready to learn. **Make sure that you come to class well rested, sober, and ready to learn.**

Mathematics is not a spectator sport. **Efficient studying is problem solving without the aid of notes, books, or videos.** Reading notes, reading the textbook, or watching videos without practice will only lead to the illusion of preparedness. After reading and watching, practice solving problems without those aids.

Do not get behind! Mathematics is cumulative by nature. Yesterday's concepts are necessary for mastering today's material. If you miss a class, make sure you catch up with the course work immediately. Keep up with the homework. If you get behind, credit is not the only thing you will lose. More importantly, you will not be able to understand new material and therefore you can not get the full benefit of class meetings.

Format matters. Try to follow your instructor's suggestions with respect to format and philosophy.

Form or join study groups! Students who study together outside of class tend to do better than students who do not.

Get help! Your tuition (which was recently raised) includes the funding of the Math Center and Tutoring Center and your instructor's office hours. Make sure to visit this places at least once before you give up on them. Remember, you paid for those services.

Understand that you are part of learning community. Try not to completely withdraw or dominate the class by answering every question. You can not rewind a live lecture, so you need to pay attention. Put that phone away!

Avoid self-fulfilling prophecies such as "I am not good at math" or "I will never get this". This is a common misconception in the United States. Mathematics is just another skill on which we constantly work to improve. The more you apply yourself, the better you get at it. You might be surprised to find that you are actually good at it!

Calendar of Events

Please note that the Calendar of Events is subject to change. To save class time, some quizzes might be cancelled. (Usually one or two each semester). Last revised: August 26, 2017.

	Tuesday	Thursday
Week 1	**Class 1 – August 29**	**Class 2 – August 31**
Week 2	**Class 3 – September 5** **Quiz 1** online due Monday, September 4 at 11:30 PM	**Class 4 – September 7** **Quiz 2 – in class**
Week 3	**Class 5 – September 12** **Quiz 3** online due Monday, September 11 at 11:30 PM	**Class 6 – September 14** **Quiz 4 –** in class
Week 4	**Class 7 – September 19**	**Class 8 – September 21** **Exam 1**
Week 5	**Class 9 – September 26** **Quiz 5 online** due Monday, September 25at 11:30 PM	**Class 10 – September 28** **Quiz 6 –** in class
Week 6	**Class 11 – October 3** **Quiz 7 online** due Monday, October 2 at 11:30 PM	**Class 12 – October 5** **Quiz 8 –** in class
Week 7	**Class 13 – October 10** **Quiz 9 online** due Monday, October 9 at 11:30 PM	**Class 14 – October 12** **Quiz 10 - in class**
Week 8	**Class 15 – October 17**	**Class 16 – October 19** **Exam 2**
Week 9	**Class 17 – October 24** **Quiz 11 online** due Monday, October 23 at 11:30 PM	**Class 18 – October 26** **Quiz 12 - in class**
Week 10	**Class 19 – October 31** **Quiz 13 online** due Monday, October 30 at 11:30 PM	**Class 20 – November 2** **Quiz 14 - in class**
Week 11	**Class 21 – November 7** **Quiz 15 online** due Monday, November 6 at 11:30 PM	**Class 22 – November 9** **Quiz 16 - in class**
Week 12	**Class 23 – November 14**	**Class 24 – November 16** **Exam 3**
Week 13	**Class 25 – November 21** **Quiz 17 online** due Monday, November 20 at 11:30 PM	**November 23 - No Class**
Week 14	**Class 26 – November 28** **Quiz 18 online** due Monday, November 27 at 11:30 PM	**Class 27 – November 30** **Quiz 19 - in class**
Week 15	**Class 28 – December 5**	**Class 29 – December 7**
Week 16	**Class 30 – December 12**	**Class 31 – December 14** **Exam 4**
End of Semester: Saturday, December 17		

Last day for student initiated withdrawal: Monday, November 20

Course Information

Course Description

This is the first course in calculus and analytic geometry. It explores various characteristics and equations of conics and covers techniques of differentiation for algebraic and trigonometric functions. It also includes an introduction to the Fundamental Theorem of Calculus. Technology and writing as appropriate to the discipline will be emphasized throughout the course.

Students the Course is Expected to Serve

This course is intended for students requiring the first course in calculus.

Course Objectives

Discuss the equations and characteristics of various conics.
Understand the concepts of a limit, continuity, and differentiability.
Apply the sum, product, quotient, and chain rules of differentiation.
Differentiate algebraic and trigonometric functions.
Apply the concepts of differential calculus to contextual (real-world) situations.
Understand the definition and basic properties of the Riemann sum.
Understand the concept of an antiderivative and its role in the Fundamental Theorem of Calculus.

Student Learning Outcomes: Upon satisfactory completion of the course, students will be able to:

Estimate limits and derivatives graphically and by using tables of values.
Calculate limits of functions algebraically.
Calculate derivatives of functions using the definition of a derivative.
Identify points where a function fails to be continuous or differentiable.
Calculate derivatives of functions using the sum, product, quotient and chain rules.
Determine derivatives of functions using implicit differentiation.
Determine the equation of a tangent line to the graph of a function.
Approximate changes in a function using differentials.
Apply the Intermediate, Mean, and Extreme Value Theorems to a function defined on a closed and bounded interval.
Apply derivatives to problems involving optimization and related rates.
Analyze the behavior of functions and their graphs using first and second derivatives (e.g.,determine local and absolute extrema, concavity, and inflection points).
Determine antiderivatives of functions.
Apply the concepts of first and second derivatives and antiderivatives to motion problems.
Calculate a Riemann sum of a function on a closed interval.
Evaluate definite integrals by using the Fundamental Theorem of Calculus
Integrate functions using the methods of substitution, parts, and partial fractions.
Evaluate improper integrals.

Truman College General Education Goals

Upon successful completion of this course, students will demonstrate the ability to

- think critically, abstractly, and logically.
- communicate effectively in written and oral forms.

Projected Course Outline

Please note that the Course Outline is just a prediction, and is subject to change (it always changes). The class's web site contains a link to the actual Course Outline that will be updated after each class.

Week 1 Functions and their Graphs (1.1), Exponential and Logarithmic Functions (1.2, 1.4), Inverse Functions (1.3), Circles (handout)

Week 2 Complete Analysis of a Function, Average Velocity (2.1), Limits and Continuity(1.7-1.9), Intermediate Value theorem (handout, 3.10)

Week 3 Definition of the Derivative (2.1-2.5), Differentiating Polynomials (3.1)

Week 4 Review and Exam 1

Week 5 The Product Rule (3.3), Finding local Extrema (4.1, handout), Optimization 1 (4.2)

Week 6 Differentiating Trigonometric Functions (3.5), Differentiating Logarithmic Functions (3.6),

Week 7 Differentiability (2.6), Second Derivative Test (2.5), Optimization 2 (handout, 4.3), Differentiating Exponential Functions (3.2)

Week 8 Review and Exam 2

Week 9 The Quotient Rule (3.3), Concavity and Curve Sketching (handout), Antiderivatives (6.2)

Week 10 Chain Rule and Differentiating Inverse Functions (3.6, handout), Related Rates (4.6), Linearization (3.9), Mean Value theorem (handout, 3.10)

Week 11 Implicit Differentiation (3.7), Optimization 3 (4.3, 4.4), Theorems about Differentiable Functions (3.10)

Week 12 Review and Exam 3

Week 13 L'Hôpital's Rule (4.7), Areas and Sums (5.1, 5.2)

Week 14 Definite Integral (7.1), Fundamental Theorem of Calculus (5.3, 6.4)

Week 15 The Substitution Rule (5.5), Hyperbolic functions (3.11)

Week 16 Final Review and Final Exam

Have a pleasant, productive, and rewarding semester!

Marta Hidegkuti