

# Syllabus

## Calculus and Analytic Geometry 1

### Math 207 TU – Spring 2014

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|-------------------------|--|
| <b>Course Title</b>     | Calculus and Analytic Geometry 2   |
| <b>Credit Hours</b>     | 5  |
| <b>Length of Course</b> | 16 weeks   |
| <b>Prerequisites</b>    | Grade of C or better in Math 140 and Math 141, or Math 143, or placement test, or consent of department chair  |
| <b>Section</b>          | 207 TU (section number: 65607)   |
| <b>Classes</b>          | Tuesday, Thursday, 6:00 PM – 8:25 PM in Room 3963  |
| <b>Instructor</b>       | Marta Hidegkuti e-mail: <a href="mailto:mhidegkuti@ccc.edu">mhidegkuti@ccc.edu</a> Office: Room 3824 D   |
| <b>Office Hours</b>     | Monday, Tuesday, Wednesday 12:30 PM – 1:45 PM (Room 3824 D)<br>Tuesday, Thursday 8:30 PM – 9:30 PM (Room 3824 D)<br>Thursday 12:30 PM – 1:45 PM (Math Center)<br>or by appointment<br>Some office hours may be cancelled or re-scheduled due to meetings.  |
| <b>Web Sites</b>        | All handouts and announcements will be available on the class's web site, at <a href="http://www.teaching.martahidegkuti.com/Math207/math207_sp14/Math207.html">http://www.teaching.martahidegkuti.com/Math207/math207_sp14/Math207.html</a><br>In case the web site is down, check at Blackboard. Please e-mail to <a href="mailto:mhidegkuti@ccc.edu">mhidegkuti@ccc.edu</a> if you notice broken links. |
| <b>Textbook Policy</b>  | <b>Due to price consideration, students are welcome to use previous editions of the official textbook, which is</b> Thomas' Calculus, Early Transcendentals by George B. Thomas, Weir, and Hass. (Pearson, 2012; ISBN Number: 978-0-321-662883-1). Most topics will be also covered by handouts posted on the course's web site.   |

#### Calculator Policy

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.**

#### Supplements

The textbook is bundled with MyMathLab. The use of MyMathLab is **optional**. The course ID of this class is hidegkuti85153 and students can log in at [www.mymathlab.com](http://www.mymathlab.com).

#### Important Dates

|  |  |
|--|--|
| First class: Tuesday, January 14                   | Exam 3: Thursday, April 3                    |
| Exam 1: Thursday, February 6                       | Exam 4 (same as Final Exam): Thursday, May 8 |
| Exam 2 : Thursday, March 6                         | End of Semester: Saturday, May 10            |
| Last day to withdraw from classes: Monday, April 7 |  |

#### 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 to class on time. If you are absent, you are responsible for all work and assignments covered in lecture 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 have been attempted.
- 2 Less than 50% of class sessions up to the midterm have been attended.
- 3 Student missed 4 consecutive classes.

#### 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, April 7. 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.

## 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 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: 10%      Exam 3: 20%  
Exam 2: 15%      Exam 4: 25%      Quizzes: 30%

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

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.

## Makeup 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 his/her 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, May 2.

## Academic Integrity

The CCC 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 the 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 [student policy manual](#).

# General Information

## Class Room Etiquette

At all times, please treat the instructor, other students, and their opinions with respect. Before arriving to class, please **turn off all cell phones, pagers, and other loud devices. Please make every effort to arrive on time for class.** Please refrain from talking while the instructor is lecturing. 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.

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

Repeated noises such as sniffing, 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.

## 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. 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](http://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>.

If you are contacting me about an assignment, please be sure to include your full name in the message and identify the assignment. Please use grammatically correct sentences in your email with punctuation and correct capitalization. Communications such as "can u pls reset my quiz thnx" are not acceptable in this course just as much as they will probably not be acceptable at your future job.

## Academic Support Services

**The Math Center** is a free service open to all students. The Math Center, located in Room 1220, is a place where students can do their homework, study for tests, and participate in group study sessions to gain a better understanding of the course material. The Math Center also serves credit level math classes during specific block times during the week. Visit the Math Center for more information.

**The Tutoring Center** is located in Room 162 in the Larry McKeon Administrative Building. Students are encouraged to seek help and guidance during the course. Students have already paid for this service as part of tuition fees. Please note: in order to receive tutoring, students need to sign up in advance. (773) 907- 4785  
web site: <http://www.ccc.edu/colleges/truman/departments/Pages/Tutoring.aspx>

**The Student Success and Leadership Institute (SSLI)** is located in Room 162 in the Larry McKeon Administrative Building.. For students who need various other support services to achieve their educational goals. (773) - 907-4714,  
web site: <http://www.ccc.edu/colleges/truman/departments/Pages/Career-Services.aspx>

**TRIO Student Support Services** is located in Room 162 in the Larry McKeon Administrative Building. For low-income students, first generation college students, or students with disabilities who need academic support: (773) 907 - 4797. Registration is required at the start of each semester.  
web site: <http://www.ccc.edu/colleges/truman/departments/Pages/TRIO-Student-Support-Services.aspx>

**Disability Access Center** is located in Room 1428. 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.

# Calendar of Events

Please note that the Calendar of Events is subject to change. Last revised: January 2, 2014

|                                       | Tuesday                | Thursday                         |
|---------------------------------------|------------------------|----------------------------------|
| Week 1                                | January 14 — Class 1   | January 16 — Class 2             |
| Week 2                                | January 21 — Class 3   | January 23 — Class 4<br>Quiz 1   |
| Week 3                                | January 28 — Class 5   | January 30 — Class 6<br>Quiz 2   |
| Week 4                                | February 4 — Class 7   | February 6 — Class 8<br>Exam 1   |
| Week 5                                | February 11 — Class 9  | February 13 — Class 10<br>Quiz 3 |
| Week 6                                | February 18 — Class 11 | February 20 — Class 12<br>Quiz 4 |
| Week 7                                | February 25 — Class 13 | February 27 — Class 14<br>Quiz 5 |
| Week 8                                | March 4 — Class 15     | March 6 — Class 16<br>Exam 2     |
| Week 9                                | March 11 — Class 17    | March 13 — Class 18<br>Quiz 6    |
| Week 10                               | March 18 — Class 19    | March 20 — Class 20<br>Quiz 7    |
| Week 11                               | March 25 — Class 21    | March 27 — Class 22<br>Quiz 8    |
| Week 12                               | April 1 — Class 23     | April 3 — Class 24<br>Exam 3     |
| Week 13                               | April 8 — Class 25     | April 10 — Class 26<br>Quiz 9    |
| ☀ ☀ ☀ April 15 –20 Spring Break ☀ ☀ ☀ |                        |                                  |
| Week 14                               | April 22 — Class 27    | April 24 — Class 28<br>Quiz 10   |
| Week 15                               | April 29 — Class 29    | May 1 — Class 30<br>Quiz 11      |
| Week 16                               | May 6 — Class 31       | May 8 — Class 32<br>Exam 4       |
| May 10 - End of Spring 2014 term      |                        |                                  |

Last day for student initiated withdrawal: Monday, April 7

# 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 subject to change. Last revised: December 31, 2013  
The class's web site will contain a Course Outline that is updated after each class.

## **Week 1**

Functions and their Graphs (1.1), Quadratic and Trigonometric Functions (1.2, 1.3) Exponential and Logarithmic Functions (1.5, 1.6), Inverse Functions (1.6)

## **Week 2**

Complete Analysis of a function, Average velocity (2.1), Limits (2.1, 2.2)

## **Week 3**

Limits (2.1, 2.2, 2.4, 2.6)

## **Week 4**

Review and Exam 1

## **Week 5**

Definition of the Derivative (3.1, 3.2, 3.3), Differentiation Rules (3.3)

## **Week 6**

Differentiating trigonometric Functions (3.5), Differentiating logarithmic functions (3.8), Finding local extrema (4.3)

## **Week 7**

Antiderivatives (4.8), The Product Rule (3.3), Optimization (4.6)

## **Week 8**

Review and Exam 2

## **Week 9**

The Quotient Rule (3.3), Second Derivative test

## **Week 10**

Chain Rule (3.6), Concavity and Curve Sketching (4.4)

## **Week 11**

Implicit Differentiation (3.7), Differentiating Inverse Functions (3.8, 3.9), Related Rates (3.10)

## **Week 12**

Review and Exam 3

## **Week 13**

L'Hôpital's Rule (4.5), Areas and sums (5.1, 5.2)

☀ ☀ ☀ Spring Break - March 24-30 ☀ ☀ ☀

## **Week 14**

Definite Integral (5.3), Fundamental Theorem of Calculus (5.5)

## **Week 15**

Indefinite Integrals and the Substitution Method (5.5), Integration by substitution and Area Between Curves (5.6)

## **Week 16**

Final Review and Final Exam