

# Syllabus

## General Education Mathematics

### Math 118 DE - Spring 2013

<b>Course Title</b>	General Education Mathematics	
<b>Credit Hours</b>	4	
<b>Prerequisites</b>	Placement test, or grade of C or better in Mathematics 112, or grade of C or better in Mathematics 99, or consent of department chair.	
<b>Section Classes</b>	118 DE (section number: 66877) Monday 1:00 PM – 3:30 PM in Room 3979	
<b>Instructor</b>	Marta Hidegkuti e-mail: <a href="mailto:mhidegkuti@ccc.edu">mhidegkuti@ccc.edu</a>	Office: Room 3812
<b>Office Hours</b>	Monday 3:45 – 5:00 PM (walk-in) Tuesday, Wednesday, Thursday 12:30 PM – 1:45 PM (walk-in) and Friday 9:30 AM – 11:30 AM by appointment only	

**Web Sites** [http://www.teaching.martahidegkuti.com/Math118/math118\\_sp13/Math118.html](http://www.teaching.martahidegkuti.com/Math118/math118_sp13/Math118.html) and [BlackBoard](#)

**Textbook** The Nature of Mathematics by Karl J. Smith, 12th edition, Brooks/Cole, 2012; ISBN Number: 978-0-538-73758-6. **Due to cost considerations, students are welcome to use any previous edition of the text.** Some topics will be covered by handouts posted on the course's web site.

#### Supplements

The textbook is bundled with WebAssign. **The use of WebAssign is optional and will not be part of the course.** If students want to use WebAssign, they can log in at <https://www.webassign.net/login.html> and should use the course code **trumcollege 7791 5788**.

#### 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.**

#### Important Dates (Last revised: February 25, 2013)

First class: Monday, January 14	Exam 2: in class on Monday, April 8
No class: (Holiday) Monday, January 21	Last day to withdraw from classes: Monday, April 8
No class: (Holiday) Monday, February 18	Exam 3: (same as Final Exam) in class on Monday, May 6
Exam 1: in class on Monday, March 4	End of Semester: Saturday, May 11
Spring Break: March 25-31	

#### 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 class session 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 assignments up to the midterm have been completed.
- 2 Less than 70% of quizzes and tests up to the midterm have been attempted.
- 3 Less than 50% of class sessions up to the midterm have been attended.
- 4 Student missed 2 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 8. Before withdrawing from the course, students are encouraged to consult the instructor.

## Hybrid Course Delivery

A hybrid course is one that is delivered as a mixture of a traditional class and an online class.

### Traditional Component: Lecture, homework, and exams.

The course material will be presented during traditional lectures and in-class assignments. Homework assignments will be Problem Sets and will be posted on the class's website after class (by Tuesday morning for a Monday class). The Homework Assignments must be turned in on paper, at the beginning of next class. There will be also three in-class examinations during class. These examinations will take up the entire class period.

### Online Component: Quizzes and Quiz Reviews

The quizzes will be taken online, using Blackboard. While it can be taken at a time that is convenient for students, **quizzes must be taken before the next class begins**. This rule will be strictly enforced because in order to understand each lecture, students must first master the material from the previous lecture(s). Quizzes will appear Tuesday morning after the Monday class and must be taken before the next class begins. After the deadline which is noon on Monday, the link to the quiz will be no longer available.

Blackboard is a free service and some of its aspects are frustrating. For example, if a student entered an answer with an extra space, Blackboard might mark it wrong as it automatically grades the quizzes. **Students will always get credit for a correct answer**. If a student thinks that their work was incorrectly marked wrong on a quiz, they must immediately notify the instructor by e-mailing to [mhidegkuti@ccc.edu](mailto:mhidegkuti@ccc.edu). The e-mail must also specify the quiz and the problem in question.

Before taking a quiz, students must first complete the online quiz reviews. The quiz reviews will be designed to be similar to the online quizzes. These reviews cover the necessary course material and also prepare the students to give answers in the format in which Blackboard will accept it as correct.

## Grading Policies

Quizzes will be taken online, using Blackboard. Exams will be taken during classes at the dates indicated above.

### 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: 85%      Quizzes: 10%      Homework: 5%

### Final Grade

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

Exam 1: 20%      Exam 3: 35%      Homework: 5%  
Exam 2: 30%      Quizzes: 10%

### Makeup Policy

**Quizzes:** It is essential that students complete the quizzes by the deadlines indicated. After such a deadline, Blackboard will not allow students to take the quiz. Permission to make-up a quiz is subject to the discretion of the instructor, and will be granted only one time in a semester per student. In case of a late quiz, no partial credit will be given.

**Exams:** 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. All make-up exams will take place on Friday, May 3.

## Homework

Homework is an essential part of the learning process; do not expect to do well in this course without keeping up with the homework. Homework is expected to be turned in at the beginning of class, stapled, written neatly and legibly, graphs drawn on graph paper. Please do not ask the instructor for a stapler. To earn full credit, always show all work. A solution turned in without work shown will receive a maximum of 20% credit. Homework assignments will consist of problem sets. Within a problem set please present the problems in the order they were assigned and circle your final answers.

**Late Homework** Homework assignments turned in late will receive up to 50% credit. If an assignment is more than one week late, no credit will be given.

## 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 at <http://www.ccc.edu/departments/Documents/studentpolicymanual.pdf>.

# Academic Support Services

**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. Current hours: Monday-Thursday 9am-5pm, Friday 9am-12pm, and later appointments available until 7 pm at least 2 evenings each week. Contact: (773) 907-4786 for an appointment or information. 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.

## 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>.

## Planned Course Outline:

Please note that the course outline is subject to change. Last revised: January 25, 2013

A separate document, titled Course Outline will be posted on the class's web site. All changes will be documented there.

Class 1 - January 28, 2013 – Course Information (Syllabus), Sets, empty set, Venn Diagrams, intersections and unions (2.1, 2.2), The Fundamental Counting Principle (12.1), At home: review of percents

Class 2 - February 4, 2013– Subsets (2.2), Permutations (12.1), geometry: angles, angles in a triangle (7.2), Sum of angles in a polygon (7.2)

Class 3 - February 11, 2013 –Combinations (12.2), Perimeter (9.1), Simple interest (11.1), Area of a rectangle and a right triangle (9.2)

Class 4 - February 25, 2013 – Pythagorean Theorem (5.5), Volume (9.3)

Class 5 - March 4, 2013– Exam 1 Area and perimeter (9.1, 9.2)

Class 6 - March 11, 2013 – Compound Interest (11.1), Introduction to Probability (13.1)

Class 7 - March 18, 2013 – Fractions and Decimals, The decimal presentation of rational and irrational numbers (5.6)

Class 8 - April 1, 2013 – Installment Buying (11.2)

Class 9 - April 8, 2013 – Exam 2

Class 10 - April 15, 2013 – Present value of future events (11.1), Computing Probabilities (13.3)

Class 11 - April 22, 2013 – Mathematical Expectation (13.2) The binomial theorem (12.2, 13.5)

Class 12 - April 29, 2013 – Similar Triangles (7.4), Binomial probability (13.5), Descriptive statistics (14.2)

Class 13 - May 6, 2013 – Final Exam

# Calendar of Events

Please note that the Calendar of Events is subject to change. Last revised: March 31, 2013

Class Meeting	Online Quizzes
January 28 – Class 1	Quiz 0 and Quiz 1: due by noon February 4
February 4 – Class 2	Quiz 2: due by noon February 11
February 11 – Class 3	Quiz 3: due by noon February 25
February 25 – Class 4	
March 4– Class 5 Exam 1	
March 11– Class 6	Quiz 4: due by noon March 18
March 18 – Class 7	Quiz 5: due by noon April 1
April 1 –Class 8	
April 8– Class 9 – Exam 2	
April 15 – Class 10	Quiz 6: due by noon April 22
April 22 – Class 11	Quiz 7: due by noon April 29
April 29 – Class 12	
May 6 – Class 13 – Exam 3	
May 11 – End of Spring 2013 term	

Last day for student initiated withdrawal: Monday, April 8

# Course Information

**Course Description:** This course is designed to fulfill general education requirements. It is not designed as a prerequisite for any other college mathematics course. This course focuses on mathematical reasoning and the solving of real-life problems. Three topics are to be studied in depth from among the following list: counting techniques and probability, game theory, geometry, graph theory, linear programming, logic/set theory, mathematics of finance, and statistics. Mathematical modeling must be integrated in any combination of topics selected. Technology and writing assignments will be used throughout the course as appropriate. Applications involving problem-solving skills are emphasized throughout the course.

## 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.

## Course Objectives:

Interpret and draw inferences from mathematical models such as formulas, graphs, tables, and schematics.  
Represent mathematical information symbolically, visually, numerically, and verbally.  
Use arithmetic, algebraic, geometric, and/or statistical methods to solve problems.

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

### Set Theory:

Demonstrate a working knowledge of set notation and elementary set theory.  
Illustrate relations between sets using Venn Diagrams.  
Use sets and Venn Diagrams as a problem solving tool.

### Counting Techniques and Probability:

Apply the addition and multiplication rules of counting to a contextual situation.  
Apply permutations and combinations to a contextual situation.  
Determine and count the outcomes in an experiment.  
Apply the addition and multiplication rules of probability.  
Formulate and apply discrete probability distributions to a contextual situation.  
Identify mutually-exclusive and independent events from contextual situations.

### Geometry:

Apply formulas (i.e., perimeter, circumference, and area) for 2-dimensional figures to a contextual situation.  
Apply formulas (i.e., volume, and surface area) for 3-dimensional figures to a contextual situation.  
Apply the concepts of circles and spheres to a contextual (real-world) situation.  
Apply the Pythagorean Theorem to a contextual situation.  
Solve applications involving parallel and perpendicular lines.  
Apply the concepts of congruence and similarity to a contextual situation.

### Mathematics of Finance:

Apply the concepts of simple and compound interest, future and present values, and the yield rate of investments to contextual situations.  
Apply the concepts of simple and compound interest, future and present values, and the yield rate of investments to contextual situations.

### Statistics:

Construct and interpret frequency distribution tables and graphs.  
Determine and interpret the measures of descriptive statistics (i.e., central tendency, dispersion, and position) in contextual situations.  
Apply the properties of the normal distribution to contextual situations.

### Number Theory:

Apply the rules of divisibility by 2, 3, 4, 5, and 10.  
Determine the prime factorization of a natural number.  
Compute the least common multiple and greatest common divisor of several natural numbers.