Mathematics
Northline Campus

Math 1332: Contemporary Mathematics
CRN 19797 – SPRING/2019
Room 228/3 11 am- 1:50 pm/ Mon, Wed
3 hour lecture course / 48 hours per semester/ #8 weeks
Textbook: Thinking Mathematically, 7th Edition, by Robert Blitzer
ISBN-13: 978-0134683713

Instructor: Charles Gabi

Instructor Contact Information: Charles.gabi@hccs.edu / 713-718-2435
For Email Communication, please use "Math 1324-" as entire subject line AND be sure to include your name.

Office location and hours: Northline Room 321. By Appointment
10:30 to 11 am, 2:00 to 3 pm Mon, Wed
12:30 to 1:30 pm Tue, Thur

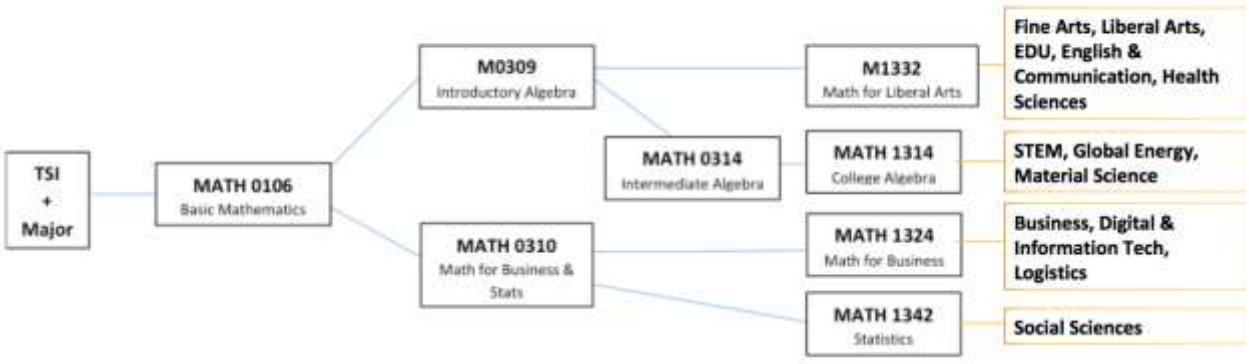
Learning Web: http://learning.hccs.edu/faculty/Charles.gabi

Course Description
MATH 1332: Mathematics for Liberal Arts is a course designed for liberal arts, non-mathematics, non-science, and non-business majors. The course provides students with an appreciation of the history, art, and beauty of mathematics in the world around us.

Prerequisites: A grade of C or better in Math 0309 or meet TSI college-readiness standard for college-level mathematics.

Co-requisite: MATH 0309 is a co-requisite to MATH 1332. Since MATH 0309 is co-requisite with MATH 1332, withdrawing from MATH 0309 will necessitate withdrawal from MATH 1332 as well

HCC MATH PATHWAYS



Course Intent: The intent of this course is to provide the student certain manipulative skills with limits insofar as they apply to concrete but elementary problems in the social and natural sciences. Mathematical rigor will be kept to a minimum.

Audience: This course is for students who need to fulfill the mathematics core requirement for a degree in liberal arts.

Course Goal

The intent of this course is to provide the student certain manipulative skills with limits insofar as they apply to concrete but elementary problems in the social and natural sciences. Mathematical rigor will be kept to a minimum.

Course Student Learning Outcomes (SLO):

1. Apply the language and notation of sets.
2. Use the tools of logic to determine the validity of an argument or statement.
3. Solve problems in mathematics of finance.
4. Demonstrate fundamental probability techniques and apply those techniques to solve problems.
5. Interpret and analyze various representations of data.
6. Demonstrate the ability to choose and analyze mathematical models to solve problems from real-world settings, including, but not limited to, personal finance, health literacy, and civic engagement.

Learning Objectives:

Students will:

1.1 Use Venn diagrams to solve application problems.
1.2 Identify sets and subsets and perform set operations.
1.3 Be familiar with the basic concepts of probability.
2.1 Express statements using symbols.
2.2 Form the negation of a statement.
2.3 Express compound statements symbolically.
2.4 Construct truth tables.
2.5 Determine truth value of compound statements.
2.6 Use truth tables to show that statements are equivalent.
2.7 Use truth tables to determine validity of arguments.
3.1 Convert fractions and decimals to percents.
3.2 Convert percents to decimals and fractions.
3.3 Find simple and compound interest.
3.4 Find the future value of a given annuity.
3.5 Find the monthly payment and the total interest for a given simple interest amortized loan.
4.1 Find the probability of an event.
4.2 Use tree diagrams to find possible outcomes and use combinations and permutations.
4.3 Solve application problems involving probability.
5.1 Be familiar with the fundamentals of statistics.
5.2 Assess a statistical study.
5.3 Find the mean, median, and mode of given sets of raw data.
5.4 Interpret statistical tables and graphs.
5.5 Identify normal and skewed distribution curves.
5.6 Determine variance and standard deviation from a given sample.
5.7 Find the margin of error associated with a given sample.
5.8 Apply linear and quadratic functions.
5.9 Apply exponential and logarithmic functions.

Core Objectives

Given the rapid evolution of necessary knowledge and skills and the need to take into account global, national, state, and local cultures, the core curriculum must ensure that students will develop the essential knowledge and skills they need to be successful

in college, in a career, in their communities, and in life. Through the Texas Core Curriculum, students will gain a foundation of knowledge of human cultures and the physical and natural world, develop principles of personal and social responsibility for living in a diverse world, and advance intellectual and practical skills that are essential for all learning.

Critical Thinking Skills: to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.

Communication Skills: to include effective development, interpretation and expression of ideas through written, oral and visual communication.

Empirical and Quantitative Skills: to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.

Course Outline: Instructors may find it preferable to cover the course topics in the order listed below.
However, the instructor may choose to organize topics in any order, but all material must be covered.

APPROXIMATE TIME REFERENCE

(6 Hours) Unit 1: Set Theory

2.1 Basic Set Concepts
2.2 Subsets
2.3 Venn Diagrams & Set Operations
2.4 Set Operations and Venn Diagrams with Three Sets

(7 Hours) Unit 2: Logic

3.1 Statements, Negations, and Quantified Statements
3.2 Compound Statements and Connectives
3.3 Truth Tables for Negation, Conjunction, and Disjunction
3.4 Truth Tables for the Conditional and the Biconditional (Omit Biconditional)
3.5 Equivalent Statements and Variations of Conditional Statements (Omit Variation Forms)
3.7 Arguments and Truth Tables (Focus on truth tables and diagrams to determine validity.)

(9 Hours) Unit 3: Consumer Mathematics and Financial Management

8.1 Percent, Sales Tax, and Discounts
8.2 Income Tax
8.3 Simple Interest
8.4 Compound Interest
8.5 Annuities, Methods of Saving, and Investments
8.6 Cars
8.7 The Cost of Home Ownership

(6 Hours) Unit 4: Counting Methods and Probability Theory

11.1 The Fundamental Counting Principle
11.2 Permutations
11.3 Combinations
11.4 Fundamentals of Probability

(7 Hours) Unit 5: Statistics

12.1 Sampling, Frequency Distributions, and Graphs
12.2 Measures of Central Tendency
12.3 Measures of Dispersions
12.4 The Normal Distribution

(4 Hours) Unit 6: Functions **(Optional)**

7.1 Graphing and Functions

7.2 Linear Functions and Their Graphs

7.6 Modeling Data: Exponential, Logarithmic and Quadratic Functions

CALENDAR

MAR 25	Day of Record (Attendance)
APR 01	Test 1 (chapter 2 & 3)
APR 15	Test 2 (chapters 8)
	Test 2 is a Mid -Term show all your work,
	Comprehensive exam. Anything from test 1 is fair game.
APR 22	Last day for Administrative withdrawal (by 4:30 pm)
MAY 06	Test 3 (Chapters 11, 12, & 7)
MAY 08	Final Exam (Comprehensive) 11– 1 pm

Final Exam Review Sessions: HCC MATH DAYS

The Math Department will offer *several* Final Exam Review sessions (i.e., **HCC Math Days**) for this course on **Friday, May 3, 2019** and **Saturday, May 4, 2019**. We encourage you to attend at least one of these sessions as you prepare for the comprehensive Final Exam. In addition, your instructor will provide a link to the final exam review document, (i.e., the **Final Exam Study Guide**). Your professor will provide you with specific information regarding HCC Math Days locations and session times later in this semester.

While the full-time Math Department faculty leading the review sessions are prepared to answer students' questions on a variety of course topics, the Final Exam Study Guide will provide the basis for the HCC Math Days sessions. Therefore, to get the most out of these review sessions, be sure to work through the Final Exam Study Guide ***before*** you attend the review session(s). Please ask your professor if you have any questions regarding these sessions.

Instructional Methods

The instructor will strive to facilitate an effective learning environment through lectures notes, classroom practice activities, discussions, and review sessions.

Student Assignments

All homework must be completed online using **Mathlab.**. You must have a score of at least 80% on all corresponding homework to take any Test.

Assessments

Your final grade for the course will be evaluated according to the following ratio:

1. **Three Examinations** ……..... ……20% each
2. **Math -Lab Homework** ……15%
3. **Comprehensive Final examination ……25%.**

Course Average = 0.20(E1 +E2 + E3) + 0.15(HW) + 0.25(Final)

Note: The Mid-Term and Final will account for 45% of your grade.

HCC Policy Statement - Students with disabilities
HCC strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please meet with a campus Abilities Counselor as soon as possible in order to establish reasonable accommodations. Reasonable accommodations are established through an interactive process between you, your instructor(s) and Ability Services. It is the policy and practice of HCC to create inclusive and accessible learning environments consistent with federal and state law. For more information, please go to http://www.hccs.edu/support-services/disability-services/

Ability Services Contact Information

Central College	713-718-6164	
Coleman College	713-718-7376	
Northeast College	713-718-8322	
Northwest College	713-718-5422	713-718-5408
Southeast College	713-718-7144	
Southwest College	713-718-5910	
Adaptive Equipment/Assistive Technology	713-718-6629	713-718-5604
Interpreting and CART services	713-718-6333	

HCC Policy Statement: Title IX:
Houston Community College is committed to cultivating an environment free from inappropriate conduct of a sexual or gender-based nature including sex discrimination, sexual assault, sexual harassment, and sexual violence. Sex discrimination includes all forms of sexual and gender-based misconduct and violates an individual's fundamental rights and personal dignity. Title IX prohibits discrimination on the basis of sex-including pregnancy and parental status-in educational programs and activities. If you require an accommodation due to pregnancy, please contact an Abilities Services Counselor. The Director of EEO/Compliance is designated as the Title IX Coordinator and Section 504 Coordinator. All inquiries concerning HCC policies, compliance with applicable laws, statutes, and regulations (such as Title VI, Title IX, and Section 504), and complaints may be directed to:

David Cross
Director EEO/Compliance
Office of Institutional Equity & Diversity
3100 Main
Houston, TX 77266-7517 or **Institutional.Equity@hccs.edu**
Phone number: 713-718-8271

Basic Needs Security Statement
Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is urged to contact the Dean of Students for support. Furthermore, please notify the professor if you are comfortable in doing so. This will enable us to provide any resources that HCC may possess.

Campus Carry statement:
At HCC the safety of our students, staff, and faculty is our first priority. As of August 1, 2017, Houston Community College is subject to the Campus Carry Law (SB11 2015). For more information, visit the HCC Campus Carry web page at http://www.hccs.edu/departments/police/campus-carry/

HCC Policy Statement: Academic Honesty

A student who is academically dishonest is, by definition, not showing that the coursework has been learned, and that student is claiming an advantage not available to other students. The instructor is responsible for measuring each student's individual achievements and also for ensuring that all students compete on a level playing field. Thus, in our system, the instructor has teaching, grading, and enforcement roles. You are expected to be familiar with the University's Policy on Academic Honesty, found in the catalog. What that means is: If you are charged with an offense, pleading ignorance of the rules will not help you. Students are responsible for conducting themselves with honor and integrity in fulfilling course requirements. Penalties and/or

disciplinary proceedings may be initiated by College System officials against a student accused of scholastic dishonesty. "Scholastic dishonesty": includes, but is not limited to, cheating on a test, plagiarism, and collusion.

Cheating on a test includes:
- Copying from another students' test paper;
- Using materials not authorized by the person giving the test;
- Collaborating with another student during a test without authorization;
- Knowingly using, buying, selling, stealing, transporting, or soliciting in whole or part the contents of a test not yet administered;
- Bribing another person to obtain a test that is to be administered.

Plagiarism means the appropriation of another's work and the unacknowledged incorporation of that work in one's own written work offered for credit.

Collusion mean the unauthorized collaboration with another person in preparing written work offered for credit. Possible punishments for academic dishonesty may include a grade of 0 or F in the particular assignment, failure in the course, and/or recommendation for probation or dismissal from the College System. (See the Student Handbook)

HCC Policy Statements

Class Attendance - It is important that you come to class! Attending class regularly is the best way to succeed in this class. Research has shown that the single most important factor in student success is attendance. Simply put, going to class greatly increases your ability to succeed. You are expected to be on time at the beginning of each class period. For complete information regarding Houston Community College's policies on attendance, please refer to the Student Handbook. You are responsible for materials covered during your absences. Class attendance is checked daily. Although it is your responsibility to drop a course for nonattendance, the instructor has the authority to drop you for excessive absences. **Missing more than 30 minutes of class is considered an absence.**

If you are not attending class, you are not learning the information. As the information that is discussed in class is important for your career, **students may be dropped from a course after accumulating absences in excess of six (6) hours of instruction**. The six hours of class time would include any total classes missed or for excessive tardiness or leaving class early.

You may decide NOT to come to class for whatever reason. As an adult making the decision not to attend, you do not have to notify the instructor prior to missing a class. However, if this happens too many times, you may suddenly find that you have "lost" the class.

Poor attendance records tend to correlate with poor grades. If you miss any class, including the first week, you are responsible for all material missed. It is a good idea to find a friend or a buddy in class who would be willing to share class notes or discussion or be able to hand in your work if you unavoidably miss a class

HCC Course Withdrawal Policy

If you feel that you cannot complete this course, you will need to withdraw from the course prior to the final date of withdrawal. Before, you withdraw from your course; please take the time to meet with the instructor to discuss why you feel it is necessary to do so. The instructor may be able to provide you with suggestions that would enable you to complete the course. Your success is very important. Beginning in fall 2007, the Texas Legislature passed a law limiting first time entering freshmen to no more than **SIX** total course withdrawals **throughout** their educational career in obtaining a certificate and/or degree.

To help students avoid having to drop/withdraw from any class, HCC has instituted an Early Alert process by which your professor *may* "alert" you and HCC counselors that you might fail a class because of excessive absences and/or poor academic performance. It is your responsibility to visit with your professor or a counselor to learn about what, if any, HCC interventions might be available to assist you – online tutoring, child care, financial aid, job placement, etc. – to stay in class and improve your academic performance.

If you plan on withdrawing from your class, you **MUST** contact a HCC counselor or your professor prior to withdrawing (dropping) the class for approval and this must be done **PRIOR** to the withdrawal deadline to receive a "W" on your transcript. **Final withdrawal deadlines vary each semester and/or depending on class length, please visit the online registration calendars, HCC schedule of classes and catalog, any HCC Registration Office, or any HCC counselor to determine class withdrawal deadlines. ***Remember to allow a 24-hour response time when communicating via email and/or telephone with a professor and/or counselor. Do not submit a request to discuss withdrawal options less than a day before the deadline.*** If you do not withdraw before the deadline, you will receive the grade that you are making in the class as your final grade. **The last day to withdraw APRIL 22, 2019.**

Repeat Course Fee
The State of Texas encourages students to complete college without having to repeat failed classes. To increase student success, students who repeat the same course more than twice, are required to pay extra tuition. The purpose of this extra tuition fee is to encourage students to pass their courses and to graduate. Effective fall 2006, HCC will charge a higher tuition rate to students registering the third or subsequent time for a course. If you are considering course withdrawal because you are not earning passing grades, confer with your instructor/counselor as early as possible about your study habits, reading and writing homework, test taking skills, attendance, course participation, and opportunities for tutoring or other assistance that might be available.

Classroom Behavior
Be respectful of all people all the time.

Misuse of Electronic Devices in the Classroom
The use of electronic devices by students in the classroom is up to the discretion of the instructor. Any use of such devices for purposes other than student learning is strictly prohibited unless authorized as an appropriate ADA accommodation from the ADA Counselor.

Instructor Requirements
Student Responsibilities.

To be successful in this class, it is the student's responsibility to complete the following tasks.

- Attend all classes.
- Participate in all class activities.
- Read and study the textbook.
- Complete the **Math-Lab** homework and required assignments.
- Work the reviews before taking the tests.
- Take all the tests.
- Pass the Final Exam.
- Keep copies of all paperwork, including this syllabus, handouts, and all homework assignments in a 2 inch binder. Show all your work when you do your homework and keep it in the binder.

Grading Scale
90 - 100 = A
80 - 89 = B
70 - 79 = C
60 - 69 = D
Below 60 = F

Personal Communication Device Policy:

All personal communication devices (any device with communication capabilities including but not limited to cell phones, blackberries, pagers, cameras, palmtop computers, lap tops, PDA's, radios, headsets, portable fax machines, recorders, organizers, databanks, and electronic dictionaries or translators) must be muted or turned off during class. Such activity during class time is deemed to be disruptive to the academic process. Personal communication devices are to not be on the student desk during examinations. Usage of such devices during exams is expressly prohibited during examinations and will be considered cheating (see academic honesty section above).

Student Course Reinstatement Policy:

Students have a responsibility to arrange payment for their classes when they register, either through cash, credit card, financial aid, or the installment plan. Faculty members have a responsibility to check their class rolls regularly, especially during the early weeks of a term, and reconcile the official class roll to ensure that no one is attending class whose name does not appear on it. Students who are dropped from their courses for nonpayment of tuition and fees who request reinstatement after the official date of record (OE Date) can be reinstated by making payment in full and paying an additional \$75 per course reinstatement fee. A student requesting reinstatement should present the registrar with a completed **Enrollment Authorization Form** with the

signature of the instructor, department chair, or dean who should verify that the student has been attending class regularly. Students who are reinstated are responsible for all course policies and procedures, including attendance requirements.

Resources:

The HCC Tutoring Centers provide academic support to our diverse student population by creating an open atmosphere of learning for all students enrolled at HCC. Using a variety of tutoring techniques, we assist students across academic disciplines, addressing their individual needs in a constructive, safe, and welcoming environment. Our emphasis is on maximizing academic potential while promoting student success and retention. We are committed to helping students achieve their educational, personal, and career goals by empowering them to become confident, independent, lifelong learners.

Tutoring for individual subjects is offered at specific times throughout the week on various campuses. There is no need to make an appointment. If you need a tutor, please refer to our website: http://www.hccs.edu/findatutor for times and locations. For more information about tutoring at HCC, please go to http://www.hccs.edu/tutoring.

Additional help is also available through Student Support Services. Students can get free assistance, 24 hours a day, 7 days a week, in Math, English and other subjects, at https://hccs.upswing.io/. Typically, an HCC tutor or faculty answers posted questions within 24 hours (usually under 6 hours). In addition, you can find several online math resources through an internet search. You may also find information on the Learning Web site accessible through your specific HCCS campus website.

EGLS$_3$ -- Evaluation for Greater Learning Student Survey System

At Houston Community College, professors believe that thoughtful student feedback is necessary to improve teaching and learning. During a designated time, you will be asked to answer a short online survey of research-based questions related to instruction. The anonymous results of the survey will be made available to your professors and division chairs for continual improvement of instruction. Look for the survey as part of the Houston Community College Student System online near the end of the term. Visit www.hccs.edu/EGLS3 for more information.

Administration contact information

College - Level Math Courses

Chair of Math	Susan Fife	SW Campus	713-718-7241	Stafford, Scarcella, N108
- Admin. Assistant	Tiffany Pham	SW Campus	713-718-7770	Stafford, Scarcella, N108
- Admin. Assistant	Christopher Cochran	SW Campus	713-718-2477	Stafford, Scarcella, N108
Math Assoc. Chair	Jaime Hernandez	CE Campus	713-718-7772	San Jacinto Building, Rm 369
Math Assoc. Chair	Ernest Lowery	NW Campus	713-718-5512	Katy Campus Building, Rm 112
Math Assoc. Chair	Mahmoud Basharat	NE Campus	713-718-2438	Codwell Hall Rm 105

Developmental Math Courses

Chair of Dev. Math	Marisol Montemayor	SE Campus	713-718-7153	Felix Morales Building, Rm 124
- Admin. Assistant	Carmen Vasquez	SE Campus	713-718-7056	Felix Morales Building, Rm 124
Dev. Math Assoc. Chair	Hien Nguyen	SE Campus	713-718-2440	Felix Morales Building, Rm 124
Dev. Math Assoc. Chair	Jack Hatton	NE Campus	713-718-2434	Northline Building, Room 321

For issues related to your class, please first contact your instructor.
If you need to contact departmental administration, then contact the appropriate Associate Chair.
If further administrative contact is necessary, then contact the appropriate Department Chair.