Instructor: Dr. Michael Granado

Instructor Contact Information:  San Jacinto Bldg. Suite 369,  michael.granado@hccs.edu,  Office phone 713-718-6487

Office location and hours: HCC Central Campus, San Jacinto Bldg. Suite 369 MW 1-2, 4-5:30 pm.

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 0312 or the equivalent.

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.
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.

**CALENDAR**

A course calendar will be provided during the first week of class. The calendar will list the due dates of exams and quizzes.

**Assessments**

A mymathlab account is required. The mymathlab course ID is: granado30977
Go to [http://www.pearsonmylabandmastering.com/northamerica/?cc](http://www.pearsonmylabandmastering.com/northamerica/?cc) to enroll or sign into mymathlab.

**Examinations**

Five exams will be given. The average of your best four examination scores, say \( T \), counts as 48% of the total course grade.

**Homework**

The homework average, say \( H \), counts as 16% of the total course grade. Homework will be administered online.

**Quizzes**

There will be approximately 10-12 quizzes. The lowest quiz score will be dropped. The quiz average, denoted \( Q \), counts as 12% of your Course Average.

**Final Examination**

There will be a comprehensive final examination given at the end of the semester. The final exam, denoted \( F_E \), is worth 24% of your Course Average. Please refer to the Course Calendar for the date of the Final Exam.

**Course Grade**

Your course average, CAVG, is computed as follows:

\[
CAVG = 0.48E + 0.16H + 0.12Q + 0.24F_E
\]

Based on the value of CAVG, the traditional grading scale will be applied. That is,

<table>
<thead>
<tr>
<th>Score Range</th>
<th>Grade</th>
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<tr>
<td>90 - 100</td>
<td>A</td>
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<tr>
<td>80 - 89</td>
<td>B</td>
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<td>70 - 79</td>
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Note that, because the final exam counts as two regular exams, if you fail the proctored final exam as well as the proctored regular exam, then you will have failed, in effect, 3 out of 6 exams (assuming that you did not fail any of the non-proctored exams), and this will have a significant effect on your eventual course grade.

**Learning Management System**

We will be using mymathlab for this course. You will need to purchase an access code. Mymathlab includes access to an eBook version of the textbook, so it is not necessary to purchase the physical textbook.

![Thinking Mathematically](image)

Even though you may enroll in MyMathLab before 8/22/2016, you will not be able to start using the course until 8/22/2016.

[http://www.pearsonmylabandmastering.com/northamerica/?cc](http://www.pearsonmylabandmastering.com/northamerica/?cc)

MyMathLab Course ID: granado30977

Note: A special edition of the textbook has been created for HCC with ISBN-13 number equal to 9781323407318
This ISBN-13 number differs from the ISBN number shown in the heading of this syllabus. The special edition was created in order to provide a special discounted online price for HCC students.

Every course that uses MyMathLab at HCC will have a $90 online purchase price for HCC students.
Because this is a special online price for HCC students, the courses require a special HCC access code, which is also discounted. Regular MML codes will not work. Students will either need to purchase their textbook/access code bundle from an HCC bookstore OR they can purchase it online via the MML registration process.

MyMathLab always comes with an eBook, and is ‘life of the edition.’ Students may choose or not to purchase the hard copy of the textbook.
Course Outline

(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
HCC Policy Statement - ADA
Services to Students with Disabilities
Any student with a documented disability (e.g., physical, learning, psychiatric, vision, hearing, etc.) who needs to arrange reasonable accommodations must contact the Disability Services Office at his or her respective college at the beginning of each semester. Faculty members are authorized to provide only the accommodations requested by the Disability Support Services Office. Persons needing accommodations due to a documented disability should contact the ADA counselor for their college as soon as possible. For questions, please contact Donna Price at 713.718.5165. To visit the ADA Web site, please visit www.hccs.edu then click Future students, scroll down the page and click on the words Disability Information.

HCC Policy Statement: Title IX
HCC is committed to providing a learning and working environment that is free from discrimination on the basis of sex which includes all forms of sexual misconduct. Title IX of the Education Amendments of 1972 requires that when a complaint is filed, a prompt and thorough investigation is initiated. Complaints may be filed with the HCC Title IX Coordinator available at 713 718-8271 or email at oie@hccs.edu.

Title IX of the Education Amendments of 1972 requires that institutions have policies and procedures that protect students’ rights with regard to sex/gender discrimination.

Information regarding these rights are on the HCC website under Students-Anti-discrimination. Students who are pregnant and require accommodations should contact any of the ADA Counselors for assistance.

It is important that every student understands and conforms to respectful behavior while at HCC. Sexual misconduct is not condoned and will be addressed promptly. Know your rights and how to avoid these difficult situations.

Log in to www.edurisksolutions.org. Sign in using your HCC student email account, then go to the button at the top right that says Login and enter your student number.

HCC Policy Statement: Academic Honesty
You are expected to be familiar with the HCC’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 is the appropriation of another’s work and the unacknowledged incorporation of that work in one’s own written work offered for credit.

Collusion is 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. 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.
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. 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 is Friday October 28, 2016

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.

Use of Camera and/or Recording Devices
Use of recording devices, including camera phones and tape recorders, is prohibited in classrooms, laboratories, faculty offices, and other locations where instruction, tutoring, or testing occurs. Students with disabilities who need to use a recording device as a reasonable accommodation should contact the Office for Students with Disabilities for information regarding reasonable accommodations.

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 Learning Emporium at the Central Campus is available to all HCC students for tutoring in Mathematics, among other subjects. Students may visit them in SJAC 384 or contact them at 713-714-6356. 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 www.hccs.askonline.net. Typically, posted questions are answered by an HCC tutor or faculty within 24 hours (usually under 6 hours). There are also several online math resources that you can find with an internet search. You may also find information on the Learning Web site accessible through your specific HCCS campus website.
**EGLS3 -- 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](http://www.hccs.edu/EGLS3) for more information.

**Administration contact information**

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<th>College - Level Math Courses</th>
<th>Chair of Math</th>
<th>- Secretary</th>
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<td></td>
<td>Jaime Hernandez</td>
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<td>SW Campus</td>
<td>Clen Vance</td>
<td>Ernest Lowery</td>
<td>Mahmoud Basharat</td>
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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.