University of Houston DOWNTOWN.

STUDENT SYLLABUS
MATH 1324 –MATHEMATICS FOR BUSINESS & SOCIAL SCIENCES
SEMESTER CREDIT HOURS-Credits: 3 Class: 3 Lab: 0

Course Description:
The application of common algebraic functions, including polynomial, exponential, logarithmic, and rational, to problems in business, economics, and the social sciences are addressed. The applications include mathematics of finance, including simple and compound interest and annuities; systems of linear equations; matrices; and linear programming.

PREREQUISITES: A grade of C or better in MATH 1300, or TSIA2 score meeting college readiness in Mathematics, or TSIA2 MATH complete, or TSIA2 MATH exempt. For current TSIA2 College Readiness scores, please see
https://www.uhd.edu/testing/Pages/testing-tsia.aspx

LEARNING OUTCOMES: The student will be able to:
1. Solve linear and quadratic equations, and linear inequalities, and interpret solutions;
2. Perform operations with matrices and apply matrix methods to systems of linear equations;
3. Formulate and solve linear programming problems by graphical methods;
4. Interpret and use functional notation, express concepts and properties in functional notation, recognize and apply different types of functions including linear, polynomial, rational, exponential and logarithmic;
5. Determine key properties of functions from various representations, and recognize common properties of different functions;
6. Compute simple and compound interest and annuities (present and future values).

Instructor Communications:
Preferred method to contact your instructor is by UHD email. Gatormail is the official student email of UHD. All electronic correspondence from and to you will occur using your Gatormail account and/or Blackboard/Canvas. Blackboard/Canvas will be required. Click here for Gatormail or BB resources. If you lose access to the BB site or have other technology issues, please contact IT at bb@uhd.edu to try to resolve. TIP: You can set up a free Google Phone number that can forward to your personal phone: https://youtu.be/c8fS-RB7FYw.

Departmental Required Textbook & Course Materials:
Finite Mathematics for Business, Economics, Life Sciences and Social Sciences, 14th Edition by Barnett, Ziegler, Byleen, and Stocker, Pearson, 2019. The use of MyLab Mastering for online assignments and testing is required in this course. Students can purchase the MyLab access for (1) ONE SEMESTER (18-week) or (2) ONE YEAR (extended). Students have the option to purchase a hardcopy of the textbook by clicking on the left menu link "Purchase Options" after accessing the MyLab homepage. For students to use MyLab, they can purchase access from either the UHD bookstore or online at when registering. Instructors will provide specific registration information.

Book Purchasing: A student of this institution is not under any obligation to purchase a textbook from a university affiliated bookstore. The same textbook may also be purchased from an independent retailer, including an online retailer.

Calculator Policy: Each student may want to have access to a graphing calculator throughout the semester. A scientific/graphing calculator will be required on the departmental final exam. Students can use calculators on all assignments and exams. The course textbook refers to use of the TI-84 model from Texas Instruments (approx. $100).

Technology Requirement: All classes at UHD require students to access materials in Blackboard/Canvas learning system or other learning applications. Online, hybrid or even face-to-face classes will assign work that requires access to a computer for creating and submitting assignments, taking tests, conducting research, working with classmates, or engaging with the class. As importantly, if University locations are not available to students for any reason, the online environment becomes a critical pathway for continuing our classes and supporting your goals of completion. Unfortunately, most phones and even some tablets may not provide the level of technology or access that can maximize your success. Therefore, it is essential for every student at UHD to have reliable access to internet and a computer that meets some basic requirements. You should communicate in a timely manner with your instructors in the case of any challenges in using technology. Here are some resources to help you determine equipment needs and usage:

- For recommended technology requirements: Technology recommendation
- For challenges in using technology: UHD IT support center
- For resources on purchasing technology: Computer access and support

To succeed at online courses at UHD, students will need a desktop or laptop computer running an up to date Windows or macOS operating system, underlining the latest Firefox or Chrome browsers to complete assignments. A built-in or add-on webcam is also often required in certain online-based courses where multimedia tools (Zoom, VoiceThread, etc.) and/or exam proctoring tools (Lockdown Browser, Monitor, ProctorU, etc.) are used. Chromebooks are not compatible with test proctoring tools such as ProctorU or Lockdown Browser. While the Blackboard/Canvas App can be helpful for some course features, we recommend not using it for graded activities. To avoid being booted from your connection at critical moments, students are encouraged to access courses, in particular exams, on a computer that's hardwired to the Internet router (via Ethernet using a Cat 5 or Cat 6 cable) as opposed to depending on Wi-Fi.

MyLab Mastering This course will also require the additional purchase of Pearson MyLab Mastering. To supplement what is done in class, your instructor will require an online resource called MyLab Mastering. In order to use MyLab, you must purchase a Student Access Code online at http://www.mymathlab.com or from the UHD Bookstore (bundled with new textbook or sold separately specifically for MATH 1324). If you previously purchased a MyLab code for MATH 1324 in a previous semester, you MAY NOT need to purchase a new code this semester (depends on length of access you originally purchased. Your account will still be active, but you will need to enroll in a new course.) You can use MyLab on any computer that has Internet access. If you do not have a computer at home with Internet access, you can log into MyLab from any of the various UHD computers on campus (like N925). Your instructor will provide you with the information on how to register with MyLab – you will need a valid email address – use one that you regularly check. You must register with MyLab through links provided specifically by your instructor. If you have never used a Pearson MyLab product before, you will first create an account with Login Name and Password. Make sure to record your exact login name and password for future use in another course. Direct access MyLab is http://www.mymathlab.com. Be sure to register with MyLab during the FIRST DAY of the class, so you can begin to access your FREE etext and use it to complete assignments right away. The MyLab e-text/assignment platform offers an initial 14-day FREE TRIAL to first time users, after this time you must purchase a Student Access Code. It is recommended that you purchase the 18-week only access option. The computers in the Academic Support Center (N925), Academic Computing Labs (S800, C300, B200), PLTL Lab (S738), and the SI Lab (S405). The MyLab platform allows you to access to

- Complete and submit required homework and quiz assignments online and check your MyLab grades
- View a complete online version of the textbook and look access to various multimedia sources such as online video clips, activities, interactive figures, PowerPoint presentations, study skill modules, and much more.

Testing and Final Exams:
The class will have an online midterm, and a required proctored departmental final exam; fully online courses will have options provided through UHD Testing Services, while for in-person traditional or hybrid classes, the final exam will be in-person during the scheduled exam period. Your instructor will inform you of the process for taking the both the midterm and the final, as well as if there are any additional costs that are part of the testing process (determined by each instructor). UHD has dedicated final exam periods for online, traditional and hybrid courses at the end of the semester for students to complete the required departmental final for each course, these dates can be found on the UHD academic calendars webpage. Students are expected to be available during the scheduled period unless they have consulted their instructor and identified an alternative option.

Use of Blackboard/Canvas, Gatormail, and Zoom:
You are expected to regularly participate in your classes as scheduled as well as engage course material through Blackboard/Canvas/Canvas as required by instructors. Gatormail is the official UHD email communication system and UHD staff and faculty must use it to share student-specific information that is protected by FERPA guidelines. You should check your account regularly for both class and university messages. You are expected to attend and participate fully following any protocols established by your instructor. Specific course elements and/or exams may require live video. Your instructor will provide this information to you as part of the class course syllabus. Students with concerns regarding any requirement to participate in live video for specific course learning outcomes and/or assignments should consult their instructor.

Academic Honesty:
As a UHD student, you are responsible for following the UHD Academic Honesty Policy Statement 3.A.19, which defines the scope of academic honesty and identifies processes for addressing violations, including an appeal process. As per the policy, "students are responsible for maintaining the academic integrity of the University by following the Academic Honesty Policy. Students are responsible for doing their own work and avoiding all forms of academic dishonesty." Academic dishonesty includes, but is not limited to, cheating and plagiarism. Your faculty member will identify the penalty for academic honesty violations and the penalty of an F in a course is recommended "in instances of multiple and/or flagrant violations." The policy also requires that all violations are reported to the Office of the Dean of Students.

Course Format:
The instructor, will provide this information to you in advance. If you have a concern regarding any requirement or specific course learning outcome, please contact the instructor to determine whether alternatives are available. Students new to an online or hybrid course may find these resources particularly valuable to determine your readiness for and understanding of general expectations in an online course:
- **Online Readiness SelfAssessment (Link):** Complete this assessment to receive specific feedback based on individual needs. This self-ssessment has 22 questions, and it shouldn't take more than a few minutes for you to complete.
- **Realistic Preview of Online Learning (Video):** In this brief video, hear from UHD students on what to expect in an online class and how to overcome common challenges.
- **Blackboard/Canvas Orientation:** After logging into Blackboard/Canvas, students can complete an orientation on Blackboard/Canvas foundations.

Teaching Philosophy:
Communication is the key to success—we are all human—all humans have the ability to think mathematically and critically observing patterns and counting—sometimes advanced concepts take more time than others—be patient with yourself and never surrender! Go for and reach your goals with dedication and honest effort. As this is a university level course, the material is intended to encourage critical thinking as we apply mathematical concepts to ideas and concepts from varying frameworks related to business and the social sciences. To do this effectively instructors will do their best to foster an environment in which each class member is able to hear and respect each other. In turn, it is vital that each class member show respect for all worldviews and diverse experiences expressed in class. The intent is that students from all diverse

backgrounds and perspectives be well served by this course, that students' learning needs will be addressed both in and out of class; the diversity that students bring to this class is viewed as a resource, strength and benefit. Instructors strive to present materials and activities that are respectful of diversity in gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture. Please let your instructor know of any ways to improve the effectiveness of the delivery or content of this course for you personally or for other students or student groups.

Course Requirements:
Instructors are <u>required to count assignments and quizzes</u> as a meaningful part of the overall course grade. The online MyLab program consists of algorithmically-generated, automatically-graded problems, one set for each section covered in the syllabus. Each instructor MUST cover all course topics by the end of the semester. A departmental midterm and a comprehensive departmental final exam will be given. Neither an open book nor a take-home test will be given, and an equivalent version of a test will <u>not</u> be distributed before any test. Any review sheet provided by the instructor will be comprehensive and the student should not feel that class notes, homework or text may be ignored in favor of the review sheet. Each instructor will include and evaluate activities that use a graphing calculator.
Learning Objectives Activities/Assessment
<u>Course Policies & Procedures:</u> Specific course policies and procedures will be provided by your instructor.
Do not submit work for a grade using only the information in this syllabus. Detailed instructions will be provided for assignments by the instructor.
MYLAB ASSIGNMENTS – Each section will be followed by departmental required MyLab homework, quiz and/or chapter test. Students are required PURCHASE of Pearson's MyLab assignment platform (with FREE e-book) will be necessary to complete these departmental MyLab course assignments.
SIGNATURE ASSIGNMENT PROJECT - One application question to formulate and solve a linear programming problem by graphical methods and is graded on the ability to empirically and quantitatively reason, visual representation and present the problem with written interpretive results around mid-term in the course.
TESTING INFORMATION – Instructors will provide students will specific testing details about the midterm and the departmental final exam as well as the optional double-take departmental on campus eFinal. **Final exams will be proctored departmental exam that all MATH1324 students must take.** Your instructor will provide the necessary information as well as if testing services offered by the UHD Office of Testing Services will be an option. ADA students should contact Disability Services regarding test scheduling. Please keep in mind that during the proctored final:
o Pencil/writing utensil and a graphing calculator (preferred) will be required
o Departmental MATH 1324 Helpful Formulas Sheet will be allowed
o Additional blank scratch paper, cell phones, e-book readers (tablets), and laptops are NOT allowed
o <u>Students are NOT allowed to use exam help, textbook, review sheets, notes, etc while taking an exam.</u>
It is important for student adhere to and abide by the UHD academic honesty agreement.

Grading Scale:
The final exam for this course is comprehensive and compulsory proctored exam, and counts 1/3 of your course average. Your final course average will be used assign your final course grade according to the formula shown here.

Grade Scale	Approximate Distribution:	
$90 - 100 \rightarrow A$	Comprehensive Final	30%
$80 - 89 \;\; \rightarrow B$	Online Midterm	15%
$70 - 79 \;\; \rightarrow C$	Chapter Tests	20%
$60 - 69 \;\; \rightarrow D$	Quizzes	15%
$0 - 59 \;\; \rightarrow F$	Homework Assignments	10%
	Signature Assignment Project	5%
	Participation	5%

Course Objectives Mapping:
This course is a freshman- level course that requires a background of two years of high school mathematics or MATH 1300. The purpose of the course is to provide students with some of the standard mathematical models and techniques needed to make quantitative decisions about "real-life" problems that arise in business, economics, and the social sciences. The course covers the following sections of the textbook. In some cases, not all pages from a section are covered.

MATH 1324 COURSE CONTENT	
Chapters/Mapping	*Sections*
Chapter 1 – Linear Equations and Graphs ☐ *Understand algebraic topics including linear equations and inequalities, graphs and lines, linear regression*	1.1 Linear Equations and Inequalities 1.2 Graphs and Lines 1.3 Linear Regression (Focus on interpretation and use)
Chapter 4 – Systems of Linear Equations; Matrices ☐ *Solve and analyze systems of linear equations with two variables using algebraic and graphical methods, matrices and Gauss-Jordan elimination for solving linear systems of equations, basic operations of matrices.. Emphasis is on applications.*	4.1 Review: Systems of Linear Equations in Two Variables 4.2 Systems of Linear Equations and Augmented Matrices 4.3 Gauss-Jordan Elimination 4.4 Matrices: Basic Operations
Chapter 5 – Linear Inequalities and Linear Programming ☐ *Graph systems of linear inequalities with two variables, and understand linear programming models and the solution of linear programming problems by the graphical methods. Emphasis is on applications.*	5.1 Linear Inequalities in Two Variables 5.2 Systems of Linear Inequalities in Two Variables 5.3 Linear Programming Two Dimensions: A Geometric Approach
Chapter 2 – Functions and Graphs ☐ *Apply the basic definitions of functions, graphs and transformations, quadratic functions, polynomial and rational functions, exponential functions, and logarithmic functions*	2.1 Functions 2.2 Elementary Functions: Graphs and Transformations 2.3 Quadratic Equations 2.4 Polynomial and Rational Functions 2.5 Exponential Functions 2.6 Logarithmic Functions
Chapter 3 – Mathematics of Finance ☐ *Solve problems in mathematics of finance by calculating simple interest, compound interest and effective interest rates, future and present value of an annuity, sinking fund payments, and amortization payments. Emphasis is on applications.*	3.1 Simple Interest 3.2 Compound and Continuous Compound Interest 3.3 Future Value of an Annuity; Sinking Funds 3.4 Present Value of an Annuity; Amortization

Attendance and Roster Certification
Students are expected to participate regularly in classes as appropriate to modality of the course. If the class has scheduled meeting times, either online or in-person, students are expected to attend all class sessions. In addition to class meeting times, students are expected to dedicate time to relevant course work outside of class meeting times based on the number of credit hours per course. For a typical 3-credit course, students should budget an average of 6 additional hours per week outside of class. This may vary for lab, practicum, or other classes that do not have standard meeting times or formats. Your failure to attend class (in-person, hybrid, or synchronous online), engage through the Blackboard/Canvas course (online asynchronous only), or make contact with faculty to adequately explain your absence by the 12th calendar day of the semester may result in your being administratively dropped from this course. Being dropped from this course may affect your enrollment status and/or your financial aid eligibility.

Strategies for Student Success: 7 important tips for becoming a successful college mathematics student:
☐ Read your book ahead of time and do your homework immediately after lecture.
☐ Listen and ask questions. Contribute to class discussions.
☐ Interact with your instructor using the phone or email.
☐ Form study groups with your classmates. Share new ideas with your friends and family.
☐ Go the the Center for Math & Statistics (N925) and meet with your success coach couple times during semester.
☐ Get involved in the online student activities that will be offered this semester.
☐ VISIT THE UHD ALGEBRA STUDENT WEB PAGE FOR MORE INFORMATION: http://cms.dt.uh.edu/qep/algebra

Student Challenges & Emergencies:
If you are experiencing any challenges in this course, the first place to seek assistance and resources is from your instructor, both inside and outside of class. Your instructor will provide the times and locations where he or she is available for office hours to work with you outside of class. Next, students have the following UHD Student Support Services available free of charge:

- The Center for Math & Statistics Support (C4MS^2) will be offering excellent math and statistics support all semester. Located in the One Main Building Room N925, C4MS^2 offers math and statistics tutoring to all UHD students. Our hours are Monday-Thursday 9 a.m. to 7 p.m. and Friday-Saturday 9 a.m. to 3 p.m. Drop-in to the center or schedule an appointment with a C4MS^2 tutor who can help you master challenging math and stats concepts. These sessions can occur in our office or on Zoom. Schedule a one-on-one tutoring appointment with a highly trained C4MS^2 tutor or UHD math/stats faculty member who can help you master challenging math and stats concepts. Appointments are available also Monday-Thursday 9 a.m. to 7 p.m. and Friday-Saturday 9 a.m. to 3 p.m. Visit the C4MS^2 website at uhd.edu/mathcenter to learn more about our services, schedule an appointment, and access math/stats online resources. You are encouraged to visit the Center throughout the semester.

- The accompanying online component, MyLab Mastering, at http://www.mymathlab.com provides numerous optional help resources such as chapter pretests, exercise examples, and self- quizzes. The multimedia online library contains section lecture videos, animation examples, PowerPoint slides, test prep videos corresponding to each textbook chapter test, and a multimedia textbook.

- UHD has developed many resources to support your learning, and have developed a website that will offer a "one stop shop" for access to many of the resources you might need this semester to support your educational goals. Please access this website to get started: https://tinyurl.com/SSR2020. If you do not find the resource you need on this website, please contact your instructor, who will make every effort to connect you with the help you need. Retention is everyone's job and instructors' treat students holistically.

Student Support Services

UHD has developed many resources to support your learning, engagement with UHD activities, and other UHD proc esses. We have developed a website that will offer a "one stop shop" for access to many of the resources you migh t need this semester to support your educational goals. Please access this website to get started.   If you do not find the resource that you need on this website, please contact the Dean of Students Office at 713-221-8100 or uhdstudentaffairs@uhd.edu ;they will make every effort to connect you with the help you need.

Student Counseling Services
As a student you may experience a range of issues that can cause barriers to learning. These might include strained relationships, anxiety, high levels of stress, alcohol/drug problems, feeling down, or loss of motivation. UHD Student Counseling Services is here to help with these or other issues you may experience. You can learn about the free, confidential mental health services available on campus by calling 713-500-3852 or at https://www.uhd.edu/student-life/counseling/.

Accessibility and Statement of Reasonable Accommodations
The University of Houston-Downtown (UHD), is committed to creating a learning environment that meets the needs of its diverse student population. Accordingly, UHD strives to provide reasonable academic accommodations to students who request and are eligible, as specified by Section 504 and ADA guidelines. Students with disabilities may work with the Office of Disability Services to discuss a range of options to removing barriers in this course, including official accommodations. If you have a disability, or think you may have a disability, please contact the Office of Disability Services, to begin this conversation or request an official accommodation. Office of Disability Services, One Main St., Suite GSB 314, Houston, TX 77002. (Office Phone) 713-221-5078 (Website) www.uhd.edu/disability/ (Email) disabilityservices@uhd.edu

Class Cancellations, University Closures, and Natural Disaster:
In the event that the instructor is unable to meet virtually (loss of power or internet), students will be notified by an announcement posted in Blackboard/Canvas announcements and automatically sent to students' Gatormail. If the instructor loses power or internet during class, students are expected to wait 15 minutes before logging out of the Zoom room. Students are also expected to setup the Emergency Contact notification system on their cell phones and/or email. UHD emergency information will be automatically sent to students after setting up this information. Click here for information on how UHD communicates with students during an emergency and to setup your UHD student emergency notification information: https://www.uhd.edu/administration/emergency-management/Pages/Receiving-Notifications-and-Alerts.aspx

The information in this syllabus is considered policy on common course syllabi for all classes at UHD in accordance with UHD's policy on course syllabi. It exists in addition to all other requirements in the syllabus that your instructor provides and all other university, system, state, and federal policies and requirements. Substantive changes to this set of policies will be communicated to faculty and students via official UHD email systems.

In addition to the policies specified in this course syllabus, all UHD courses also follow shared policies published on our syllabus website addressing the following areas:
o *Responses to University-Wide Disruptions*
o *Academic Honesty*
o *Accessibility and Statement of Reasonable Accommodations*
o *Attendance and Roster Certification*
o *Book Purchasing*
o *COVID-19 Exposure or Diagnosis*
o *Recording of Class Sessions*
o *Religious Holy Days*
o *Safety Precautions*
o *Student Support Services*
o *Student Counseling Services*
o *Technology Requirements*
o *Testing and Final Exams*
o *Use of Blackboard/Canvas OR Canvas, Gatormail, and Zoom*

End-of-Course Student Surveys (IDEA):
During the last week of the course, you will be asked to complete an end of course survey. Your thoughtful and honest responses to the survey are extremely important. We learn best what works, and what doesn't, by listening to our students. The survey is your chance to help us improve. Participation is encouraged and also has rewards.

Syllabus Subject to Change: The syllabus is tentative and subject to change. Changes, if any, will be announced in writing. This also includes the course calendar or schedule that your instructor will provide you at the beginning of the semester.