

SYLLABUS

MAT 1313 College Algebra

I. Instructor Information

Instructor's name: *Paula B. Ray*

Location of instructor's office: *Hinds Community College, Raymond Campus, Herrin-Stewart Room 217*

Office phone number: 601-857-3708, Voicemail/text 601-260-7567*

*Please leave a message and your call will be returned within 24 hours.

Email address: pbray@hindsc.edu

Office hours: Will be Posted to CANVAS

II. Course Information:

Course name: *College Algebra*

Number: *MAT 1313*

Credit hours: *3 semester hours*

Section number: H12B

Pre-requisite courses: *MAT 1233 Intermediate Algebra or ACT score of 20-36 or Compass score of 48-100*

Course Description: This course includes inequalities; functions; linear and quadratic equations, circles, and their graphs; applications; polynomial and rational functions; logarithmic and exponential functions; systems of equations.

Course Objectives: The student will acquire a solid foundation in algebra, preparing him/her for other courses, understand how algebra is used to model and solve authentic real-world problems, and develop problem-solving skills.

Course transferability: *This course is mathematics placement level-4; transferable to all Institutions of Higher Learning (IHL) within the State of Mississippi. Check with out of state IHL's.*

Student Learning Outcomes: Upon completion of this course the will be able to:

- Solve linear, quadratic, polynomial and radical equations and use equations to solve application problems.
- Solve various types of inequalities, absolute value equations, absolute value inequalities, and apply basic concepts of the rectangular coordinate system.
- Demonstrate an understanding of the basic concepts of functions and concepts related to quadratic, polynomial and rational functions; perform transformations of common functions, and solve problems involving combinations of functions, composite functions and inverse functions.
- Demonstrate an understanding of concepts relating to exponential and logarithmic functions, solve higher degree polynomial equations and use various techniques to solve systems of equations and inequalities.

General Education Key Competencies: This course support supports the development of the institutional competencies in Critical Thinking/Problem Solving, and Technology. Upon completion of this course students will demonstrate competence in these areas:

- Competence in ***critical thinking/problem solving*** is the intellectual ability to skillfully conceptualize, apply, analyze, synthesize, and evaluate information. Developing this competency includes acquiring the skills necessary to comprehend concepts, examine arguments, reason effectively, and present a conclusion or a solution to a problem.
- Skillfully conceptualize, apply, analyze, synthesize, and evaluate information.
- Communicate appropriate structure, information, and analysis with clear, concise language that reflects college level expectation through writing.
- Demonstrate intelligent use of technology in relation to mathematics.
- Communicate orally and/or expressively in clear, coherent, and persuasive language appropriate to purpose, occasion, and audience. Developing this competency includes acquiring poise and developing control of the language through experience in making presentations to different size audiences and with the use of media.

III. Textbook and Course Materials:

Name, edition, and author: *CUSTOM EDITION of College Algebra*, 11th Edition, by Gustafson & Hughes

ISBN #: 978-1-285-56611-5

On-line resources: Enhanced WebAssign is used for online homework and resources; the access code is bundled with the textbook for the ISBN # listed above (978-1-285-56611-5).

Homework is through www.webassign.net

****This course has instant access so you do not have to pay or have a class key at this point because you were already billed as part of your tuition.**

IV. Instructional Methods: Students will be shown rules and concepts for mathematical problems by several examples via Webassign video, online notes from instructor, and instructor videos. Students are expected to complete required computerized homework and worksheets in preparation for test.

PLEASE Note the NEW CALCULATOR POLICY: may ONLY use Texas Instruments TI30XIIS

V. COURSE EVALUATION CRITERIA:

Your **GRADE** will be based on 4 un-proctored online Exams, an online homework grade, quiz/graded assignment grade, 1 proctored exam, and a proctored comprehensive final exam. Each Exam will count 100 points. The online homework will count 100 points. Proctored Test and Final Exam is worth 100 points each. **No Grade Will Be Dropped.** (But, the final exam may be used twice as the exam grade and as the replacement of your lowest Proctored Test grade.)

Homework 20%, Quiz/Un-Proctored Test 30%, Proctored Tests 25%, and Final Exam 25%.

| | | |
|-----------------------|----------|-----------------|
| Grading scale: | A | 90 – 100 |
| | B | 80 – 89 |
| | C | 70 – 79 |
| | D | 60 – 69 |
| | F | Below 60 |

Un Proctored Tests: Tests will be administered throughout the course using [Webassign.net](http://www.webassign.net). These Tests are unlike the homework however you will *only have two attempts* of answering each question on the un-proctored exams. Also remember when taking the un-proctored tests, you may enter in and out of the test freely and the site will save your answers. Only click “submit” when you are done with your exam and you want it to be graded. Webassign is very picky with its answers so please be sure to enter them exactly as requested by the program. A make-up test will be given only for documented absences. **Late assignments will receive a three points penalty each day it is late**

Proctored Tests: For a Proctored Test, you must sign up for it with a Proctoring Center through your

SmarterProctoring Tab on our class canvas page. These tests will be through CANVAS and are password protected.

Semester Exam: The Proctored semester exam is cumulative. Date will be posted on Canvas. See info about Proctored Tests above.

Homework: All homework can be found online under Webassign.net. You will be allowed to enter your answer ten times before the program will mark your answer wrong. You will be awarded full credit for it once it is correct. Homework is assigned daily and has **specific due dates**. Homework is graded based on accuracy. **Late homework assignments will receive a three points penalty each day it is late**. So ask for an extension from your Webassign. Any grade is better than a zero. However if you miss with a valid excuse you will not be penalized. However, if you have not asked for an extension and it is more than two weeks past the due date, you will be **DENIED** the extension. Also don't ask for an extension if you have looked at the key, you will be **DENIED**

POLICY ON ASSIGNMENT DUE DATES & LATE POLICY

Hind's academic philosophy is to provide each adult student with an opportunity to actively learn and demonstrate competencies needed in today's high performance workplace. Opportunities will be made available for you to reach your maximum learning potential. Just as in the workplace, it is expected that you will complete all assignments and assessments by the due date. You are given at least a week to complete each of the graded requirements, i.e., homework, discussion, quizzes and exams. This is a generous amount of time if used effectively.

No makeup work will be allowed unless the student has an exceptional excuse, which precludes him/her from completing the assignments on time. Such situations will be handled on a case by case basis but only after the student has given advance notice to the instructor that assigned work cannot be completed on time.

"INCOMPLETE" GRADE POLICY

Instructors have the option of giving the grade of Incomplete ("I") only to a student whose work in a course has been satisfactory, and the student, because of illness or other circumstances beyond the student's control, has been unable to complete some small part of the course work. The student must remove the "I" grade by completing work assigned by the instructor. It is the responsibility of the student to request and make arrangements with the instructor to complete the work during the following quarter by the date specified. Otherwise the "I" automatically becomes an administrative "F" ("F*"). An administrative "F" counts as a "0" in determining the grade point average. No student receiving an "I" can be on the Honor Roll or the Dean's List for that quarter. Please review the policy and procedures covering academic dishonesty in the Hind's University Catalog.

UNIVERSITY NOTICES - Please refer to the tab, Hind Information: CANVAS.

UNIVERSITY SERVICES - Please refer to the tab, Hinds Information: CANVAS.

The **Threaded Discussions** will be administered in Blackboard (blackboard.hindscc.edu).

Threaded Discussion Rubric-[Please refer to Discussion Board Rubric on Canvas](#)

Students posts should be thoughtful and with substance. You should include some information here regarding what you are looking for in terms of postings, and one what bases they will be graded.

Frequency of Postings — Students will be required to submit at least 2 postings per forum on two separate days of the week. Posting four times in one day per forum is not an acceptable frequency. The quality of participation and learning increases when postings are spread out over the course of the forum, this method of posting provides a greater ability to synthesize other perspectives, demonstrate and increase student listening skills, and contribute more fully to an evolving discussion.

Quality of Postings – The quality of student postings will be evaluated using the following criteria:

Ability to synthesize readings and main concepts

Clear demonstration that the student is listening to peers and synthesizing their comments

Demonstration of a clear understanding of the topic area

Postings are on topic and contribute to the quality of the discussion

Attention to grammar and spelling

Good organization of thought & well constructed postings

Ability to present more than one opinion or point of view – provide an informed opinion based upon rational discourse, readings, observations of others, relationship to your past experiences, etc.

Postings relate the topic area to a personal experience whenever possible

Taking the dialogue to a deeper level – this element goes toward a person’s ability to go beyond meeting the minimum requirements to enhance and transform the dialogue – examples include offering resource information, links, news, etc.

Demonstration of proper “net etiquette” in postings

Things to Avoid

Excessive use of “I agree” responses without explanation – provide reasoning for agreement or disagreement

Excessive postings in one forum (informally known as “hogging” the forum)

- The key to success in this area is balance

- Keep in mind that other students will be reading the postings

- Stay on topic and let others share their knowledge

- Lack of respect for divergent opinions - show the respect to others that you would like bestowed on you

- Off – topic comments - heading down a new road may be healthy and of value occasionally but try to be mindful of the discussion at hand

- Overly long threads – try to make responses no longer than one to two screen lengths – quality trumps quantity in this area

** **Netiquette** is a compound of the words “network” and “etiquette”. It refers to acceptable codes of practice for interacting with others while online. In order to prevent misunderstandings and promote engaging and meaningful collaboration, extra care must be taken into how you express yourself in your written communication.

How to Communicate

- **Be professional** as you communicate. Reread your written text before posting or emailing. In much of the corporate world, writing in all caps is considered yelling and, therefore, is not acceptable in any online communication, nor is texting lingo.
- **Be considerate.** Think about how your words affect others.
- **Be respectful** of the opinions of others and respect your instructor.
- **Be calm.** Try to keep your emotions out of class.
- **Humor and sarcasm.** Because there are no visual cues in distance education, humor and sarcasm are impossible to discern. Be very careful when interjection humor and refrain from using any remarks that sarcastic in nature.
- **Harassment and other offensive behavior.** The online learning environment is no place to harass, threaten, or embarrass others. Comments that can be viewed, as offensive, sexist, or racially motivated will not be tolerated.
- **Offensive material.** Students may not post, transmit, promote, or distribute content that is racially, religiously, or ethnically offensive or is harmful, abusive, vulgar, sexually explicit, otherwise potentially offensive.
- **Copyrights and intellectual property.** Plagiarism will not be tolerated. Ideas that are copied should always be cited correctly.

VI. Topic Outline: College Algebra MAT 1313

The student will acquire a solid foundation in algebra, preparing him/her for other courses, understand how algebra is used to model and solve authentic real-world problems, and develop problem-solving skills.

- Unit 1** **Equations: Sections 1.1, 1.2, 1.3, 1.4, 1.5 and 1.6**
- Unit 2** **Inequalities, Absolute Value and the Rectangular Coordinate System:
Sections 1.7, 1.8, 2.1, 2.2, 2.3, and 2.4**
- Unit 3** **Functions and Graphs: Sections 3.1 – 3.7**
- Unit 4** **Exponential and Logarithmic Functions, Polynomial Equations and Linear
Systems: Sections 4.1, 4.3, 4.5, 4.6, 5.1, 5.3, 6.1 and 6.7**

Unit 1: Equations Sections 1.1, 1.2, 1.3, 1.4, 1.5 and 1.6

Learning Objectives:

The student will

1.1 Equations

1. Review the properties of equality
2. Solve Linear equations
3. Solve rational equations
4. Solve formulas for a specific variable

1.2 Applications of Linear Equations

1. Solve investment problems
2. Solve break-point analysis problems
3. Solve uniform motion problems

1.3 Quadratic Equations

1. Solve quadratic equations using factoring and the square root property
2. Solve quadratic equations using completing the square
3. Solve quadratic equations using the quadratic formula
4. Determine the easiest method to solve a quadratic equation
5. Write rational equations in quadratic form and solve the equations

1.4 Applications of Quadratic Equations

1. Solve geometric problems
2. Solve falling body problems

1.5 Complex Numbers

1. Define and simplify imaginary numbers
2. Define and perform operations on complex numbers
3. Solve quadratic equations with complex roots

1.6 Polynomial and Radical Equations

1. Solve polynomial equations by factoring
2. Solve other equations by factoring
3. Solve radical equations

Unit 2: Inequalities, Absolute Value and the Rectangular Coordinate System **Sections 1.7, 1.8, 2.1, 2.2, 2.3, and 2.4**

Learning Objectives:

The student will

1.7 Inequalities

1. Understand the properties of inequalities
2. Solve linear inequalities
3. Solve compound inequalities where the variable is in the middle part
4. Solve quadratic inequalities
5. Solve rational inequalities

1.8 Absolute Value

1. Review absolute value
2. Solve equations of the form $|x| = k$
3. Solve equations with two absolute values
4. Solve inequalities of the form $|x| < k$
5. Solve inequalities of the form $|x| > k$

2.1 Rectangular Coordinate System

1. Plot points in the rectangular coordinate system
2. Graph linear equations
3. Graph horizontal and vertical lines
4. Solve problems using linear equations
5. Find the distance between two points
6. Find the midpoint of a line segment

2.2 The Slope of a Non-vertical Line

1. Find the slope of a line
2. Use slope to solve problems
3. Find slopes of horizontal and vertical lines
4. Find slopes of parallel and perpendicular lines

2.3 Writing Equations of Lines

1. Use point-slope form to write the equations of a line
2. Use slope-intercept form to write the equation of a line
3. Graph linear equations using the slope and y -intercept
4. Determine whether graphs of linear equations are parallel, perpendicular, or neither
5. Write equations of parallel and perpendicular lines

2.4 Graphs of Equations

1. Find the x - and y -intercepts of a graph
2. Identify the center and radius of a circle
3. Write the equation of a circle
4. Find the general form of the equation of a circle
5. Graph circles whose equations are written in general form

Unit 3: Functions

Sections: 3.1 – 3.7

Learning Objectives:

The student will

3.1 Functions and Function Notation

1. Understand the concept of a function
2. Find the domain of a function
3. Evaluate a function
4. Evaluate the difference quotient for a function (optional)
5. Graph a function by plotting points
6. Use the vertical line test to identify functions
7. Use linear functions to model applications

3.2 Quadratic Functions

1. Recognize the characteristics of a quadratic function
2. Find the vertex of a parabola whose equation is in standard form
3. Graph a quadratic function
4. Find the vertex of a parabola whose equation is in general form
5. Use a quadratic function to solve maximum and minimum problems

3.3 Polynomial and Other Functions

1. Understand the characteristics of polynomial functions
2. Graph polynomial functions
3. Identify the intervals on which a function is increasing, decreasing, or constant
4. Graph piecewise-defined functions
5. Evaluate and graph the greatest integer function (optional)

3.4 Translating and Stretching Graphs

1. Use vertical translations to graph functions
2. Use horizontal translations to graph functions
3. Graph functions involving two translations
4. Use reflections about the x - and y -axes to graph functions
5. Use vertical stretching and shrinking to graph functions
6. Graph functions involving a combination of translations and stretchings

- 3.5 Rational Functions
1. Find the domain of a rational function
 2. Understand the characteristics of rational functions and their graphs
 3. Find vertical asymptotes of rational functions
 4. Find horizontal asymptotes of rational functions
 5. Graph rational functions with one vertical asymptote
- 3.6 Operations on Functions
1. Add, subtract, multiply, and divide functions specifying domains
 2. Evaluate composite functions
 3. Determine domains of composite functions
- 3.7 Inverse Functions
1. Understand the definition of a one-to-one function
 2. Determine whether a function is one-to-one
 3. Verify inverse functions
 4. Find the inverse of a one-to-one function
 5. Understand the relationship between the graphs of f and f^{-1}

Unit 4: Exponential and Logarithmic Functions, Polynomial Equations and Linear Systems
Sections 4.1, 4.3, 4.5, 4.6, 5.1, 5.3, 6.1 and 6.7

Learning Objectives:

The student will

- 4.1 Exponential Functions and Their Graphs
1. Graph exponential functions
 2. Solve compound interest problems
 3. Define e and graph base- e exponential functions
- 4.3 Logarithmic Functions and Their Graphs
1. Evaluate logarithms
 2. Evaluate common logarithms
 3. Evaluate natural logarithms
- 4.5 Properties of Logarithms
1. Use properties of logarithms to simplify expressions
- 4.6 Exponential and Logarithmic Equations
1. Use like bases to solve exponential equations
 2. Use logarithms to solve exponential equations
 3. Solve logarithmic equations
- 5.1 The Remainder and Factor Theorems; Synthetic Division
1. Understand the definition of a zero of a polynomial
 2. Use the remainder theorem
 3. Use the factor theorem
 4. Use synthetic division to divide polynomials
 5. Use synthetic division to evaluate polynomials

6. Use synthetic division to solve polynomial equations

5.3 Roots of Polynomial Equations

1. Find possible rational roots of polynomial equations
2. Find rational roots of polynomial equations
3. Find real and nonreal roots of polynomial equations

6.1 Linear Systems

1. Solve systems using the substitution method
2. Solve systems using the addition method
3. Solve systems with infinitely many solutions
4. Solve inconsistent systems
5. Solve systems involving three equations in three variables
6. Solve problems involving systems of equations

6.7 Graphs of Linear Inequalities

1. Graph linear inequalities
2. Graph systems of linear inequalities

VII. Tests/Exams:

Testing

Students will be administered 4 un-proctored exams (Through webassign) and three proctored exams (two regular tests and the Final Exam through Canvas). All exams are closed book and notes. You will also be required to schedule an appointment with a proctor in order to take your proctored test so please schedule your appointments 24 hours in advance. You will need to bring with you to your testing site a valid ID along with scratch paper, pencil and calculator. You will not be required to turn in your scratch paper but you will not be allowed to take your exam without a valid photo ID. (See Proctor Information is this site for Testing Information)

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If you are not sure that you will meet a respective deadline, please contact me via email a minimum of 24 hours before the deadline with the reason for the delay. Call by phone if you must. If justified, you **MAY** be allowed additional time to complete the requirement.

The last day to withdraw without academic penalty is **Posted on the MSVCC**. The procedures to withdraw are outlined in the Hinds Catalog.

VIII. Attendance Policy:

POLICY ON CLASSROOM ATTENDANCE

Hinds Community College emphasizes the need for students to attend classes on a regular and consistent basis to develop the skills and aptitudes necessary to succeed in this course. Online students register attendance for any course activity by logging into the course site and completing the assignments before the deadline. All homework, quizzes, review sheets, and exams must be completed on time to maintain your daily participation in this class. Courses are presented in weekly units. The weekly attendance period begins Monday at 12:00 a.m., CST and end on Sunday at 11: 59 pm, CST. Incomplete performance on course objectives and course work for that week will be treated as an absence. If only half is done, then you will get a half absence. (2 half absences will make 1 full absences) Absences will be recorded after assignments/quizzes are checked weekly. **A student with two (2) absences will be notified via-email first as a warning of attendance. You will be giving seven business days to respond to this notification if you do not respond. You will automatically then are dropped from this course with a grade of "F" due to excessive absences.**

Policies and Procedures: Policies, procedures, and college regulations are fully accessible to students on the College Website at www.hindscc.edu. On the left select the Orientation link. There you will find the Student Handbook, the College Catalog, Transfer Guides, and many other helpful link

ALL COLLEGE COMMUNICATIONS REGARDING ABSENCES, NOTICES, AND QUESTIONS WILL BE DONE THROUGH YOUR NEW HINDS EMAIL ACCOUNT, which you already have set up by college. You need to get on and go through the steps of activating it.

@hindscc.edu email: To set up your account for the first time visit the following page:

<http://www.hindscc.edu/live/> Used for problems with email
(Monday – Friday, 8 am – 5pm CST).

EMAIL and CANVAS are now available through the **NEW MyHinds portal**

IX. Plagiarism / academic dishonesty:

Excerpt from Student Handbook: Cheating on any examination, quiz, work to be completed in class, assigned work to be completed outside class; cheating on term papers; cheating on final examinations; plagiarism on any assignment; theft or attempted theft of examination questions or possession of examination questions prior to the time for examination period shall be offenses subject to the following penalties. The penalty for commission of any offense set out above is failure in the course and possible dismissal or suspension from the College. In any case where the instructor believes that an offense has been committed, the following procedures will be observed: The instructor will immediately inform the student, the department chairperson, the Academic Dean or Career-Technical Dean or Dean of Distance Learning and the Dean of Students/appropriate dean that the offense is believed to have been committed and the grade penalty has been imposed. If further action is deemed necessary, the Dean of

Students/appropriate dean, upon notification by the department chairperson, will request the Disciplinary Committee to conduct a hearing in the matter and to make recommendations to the Vice President. In any case in which a student has been accused, the student may appeal to the Local Student Affairs Committee. (Demerits: 5 minimum 15 maximum)

X. ADA Statement/Non-discrimination statement:

Official Hinds CC Notice of Non-discrimination Statement:

Hinds Community College offers equal education and employment opportunities and does not discriminate on the basis of race, color, national origin, religion, sex, age, disability or veteran status in its programs and activities. The following person has been designated to handle inquiries regarding the non-discrimination policies: : Dr. Debra Mays-Jackson, Vice President, Utica Campus, 34175 Hwy. 18, Utica, MS 39175; 601.885.7001

Official Hinds CC Disability Support Services Statement:

Hinds Community College provides reasonable and appropriate accommodations for students with disabilities. Disability Services staff members verify eligibility for accommodations and work with eligible students who have self-identified and provided current documentation. Students with disabilities should schedule an appointment with the designated Disability Services staff member on their respective campuses to establish a plan for reasonable, appropriate classroom accommodations. For a full list of contact information for each Hinds campus, please visit <http://www.hindsc.edu/compliance/Default.aspx>.

- Raymond Campus Mark Palmer 601.857.3646
- Rankin Campus Carol McLaurin 601.936.5544
- Jackson Campus – ATC Sherman Green 601.987.8148
- Jackson Campus – NAHC Student Services 601.376.4803
- Utica Campus Michele Bouldin 601.885.7043
- Vicksburg-Warren Campus Cooper McCachren 601.629.6807

Video Surveillance:

Hinds Community College utilizes Video Surveillance Cameras in order to enhance security and personal safety on its campuses. It has been determined that use of the equipment may prevent losses and aid in the law enforcement activities of the Hinds Campus Police. To ensure the protection of individual privacy rights in accordance with the law, a formal Policy on the Use and Installation of Video Surveillance Equipment has been written to standardize procedures for the installation of this type of equipment and the handling, viewing, retention, and destruction of recorded media. Under no circumstances shall the contents of any captured audio or video recordings be exploited for purposes of profit or commercial publication, nor shall recordings be publicly distributed except as may be required by law.

XII. Assignments

All homework, quizzes, and Tests are assigned through www.webassign.net All assignments have deadlines. Each week's assignment will be posted to your Module in Canvas

and sent to your Hinds email. Please pay attention to if there is a Quiz assigned on Canvas for that week. Always check your Canvas for additional assignments other than just Webassign homework.

Help Desk Information

Mississippi E Learning Community College Technical Support: (866) 361-8969 (Used for problems with learning how to use blackboard) (Grade book, exams, slides, quizzes, user activity; anything pertaining to the course shell). Select option 1 for students. (24/7/365)

Blackboard Help desk: (601) 857-3344 Students are required to use the go.hindscc.edu email system provided by the college and administered through live.edu.

@hindscc.edu email: To set up your account for the first time visit the following page:

<http://www.hindscc.edu/live/> Used for problems with email
(Monday – Friday, 8 am – 5pm CST).

Bookstore: For questions concerning the textbooks and instructional materials purchased through Hinds Virtual Bookstore:

<https://www.hindscc.edu/forms/distancelearning/bookorder.aspx>