MATH 150 (Hybrid)
College Algebra

Early Fall Session 15/11
August 17- October 10, 2015

Course Description

Fundamental algebraic concepts are examined in the context of real world applications. Linear, quadratic, polynomial, exponential, and logarithmic functions are explored with emphasis on their numerical, graphical, and algebraic properties.

Prerequisite: Grade of C or higher in MATH 106 OR a score of 21 or higher on the math portion of the ACT (or if the ACT was taken before September 1989, a score of 20) OR a score of 500 or higher on the math portion of the SAT OR a passing score on the Columbia College math placement exam.

Class Day and Time: Tuesday, 5:30 pm – 8:30 pm (Fort Stewart)

This is a hybrid course which is defined as an online course supported by a weekly in-seat class. Our class will consist both in-seat and online instruction through various resources, discussion and homework. Please note that we will meet every week, unless otherwise noted.

You are expected to attend every class. If you know prior to the beginning of the session that you will miss more than one in-seat class, it is strongly recommended that you wait to take this course at another time.

The online portion of our course is located in D2L. You will access the course through CougarTrack.

Textbooks


You will need the textbook (physical or etext) and an access code for MyLabsPlus (an online homework and resource site). The textbook and access code can be purchased as a bundle through MBS Direct. Another option is to purchase only a MyLabsPlus access code through the MyLabsPlus link in the course, and utilize the online textbook and solutions manual that are available electronically through the MyLabsPlus website with the code.

If you buy the textbook from a source other than MBS Direct, you will still need a MyLabsPlus access code (not a MyMathLab access code). MyLabsPlus access codes can be purchased separately through the MyLabsPlus link in the course. Access codes that come packaged with textbooks from sources other than MBS Direct are not guaranteed to work. Do not purchase a MyMathLab access code, because this course uses MyLabsPlus.
If you do not have access to MyLabsPlus when the course begins, the publisher provides a temporary log-in; however, you must procure these materials within the first two weeks of the course.

Calculator
You will need a graphing calculator for our class. The TI-83 or TI-84 series graphing calculator is strongly recommended, as all instruction is based on this calculator series. It is possible to purchase this calculator from MBS Direct or other retailers. You can also look into prices on used calculators online. You may choose to rent a calculator. The vendor www.RentCalculators.org, has a discount for Columbia College students.

Textbooks for the course may be ordered from MBS Direct:
- online at http://direct.mbsbooks.com/columbia.htm
- by phone at 800-325-3252

For additional information about the bookstore, visit http://www.mbsbooks.com.

Course Overview
In this course we will investigate how algebra is used to solve real world problems. This course includes linear, polynomial, exponential, logarithmic, and power functions as well as applications of mathematical principles to model events. We analyze functions using graphs, tables, equations, and technology.

Technology Requirements
Participation in this course will require the basic technology for all online classes at Columbia College:
- A computer with reliable Internet access,
- a web browser,
- The ability to watch an online video, such as on YouTube,
- Acrobat Reader, (most systems already have this installed, but if not, it is freely available at the Adobe website (http://www.adobe.com)
- Microsoft Office or Open Office.

You can find more details about standard technical requirements for our courses on our site.

Additional requirements specific to this course:
- Adobe Flash Player,
- The most updated version of Java.
- Access to MyLabsPlus to complete weekly homework.
- Graphing calculator

Course Objectives
- To communicate mathematically in both written and verbal forms.
- To reason with symbolic and graphical representations.
- To use mathematics to solve real-world problems.
• To use technology, such as graphing calculators and computers, to enhance mathematical understanding.
• To understand intuitively and formally the mathematical idea of a function and its real world applications.

**Measurable Learning Outcomes**

• Define functions as special types of relations.
• Describe the concept of a function using numerical, graphical, verbal and symbolic perspectives.
• Analyze characteristics of a function from its graph or table of values, such as long-term and extreme behavior.
• Combine functions arithmetically and through composition.
• Recognize how standard transformations affect graphs.
• Describe the fundamental concepts associated with inverse functions including the definition of one-to-one functions and the graphical interpretation of inverses.
• Use technology to find lines of best fit and interpret the results.
• Use lines and systems of linear equations to model real-world situations.
• Solve systems of equations algebraically, graphically, and with technology.
• Define exponential and logarithmic functions and use them to model real-world situations.
• Solve equations with exponential and logarithmic expressions using properties of logarithms and technology.
• Define polynomial functions and use them to model real-world situations.
• Solve nonlinear equations using factoring and technology.
• State the definition of complex numbers and their arithmetic rules.
• Use technology to model data using quadratic regression.
• Identify and interpret the vertex of a parabola using algebra and technology.
• Define rational functions.
• Identify and interpret the asymptotes of rational functions using algebra and technology.
• Determine an appropriate function to model real-world phenomena or events.
• Interpret fundamental concepts of linear functions such as slope and intercepts.
• Solve quadratic equations using factoring, the quadratic formula and technology.
# Grading

## Grading Scale

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>900 – 1000</td>
<td>90-100%</td>
</tr>
<tr>
<td>B</td>
<td>800 – 899</td>
<td>80-89%</td>
</tr>
<tr>
<td>C</td>
<td>700 – 799</td>
<td>70-79%</td>
</tr>
<tr>
<td>D</td>
<td>600 – 699</td>
<td>60-69%</td>
</tr>
<tr>
<td>F</td>
<td>0 – 599</td>
<td>0-59%</td>
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## Grade Weights

<table>
<thead>
<tr>
<th>Assignment Category</th>
<th>Points</th>
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</thead>
<tbody>
<tr>
<td>Discussions (Online)</td>
<td>60</td>
<td>6%</td>
</tr>
<tr>
<td>In Class Activities</td>
<td>180</td>
<td>18%</td>
</tr>
<tr>
<td>Homework (Online)</td>
<td>200</td>
<td>20%</td>
</tr>
<tr>
<td>Quizzes (Online)</td>
<td>160</td>
<td>16%</td>
</tr>
<tr>
<td>Midterm Exam (In Class)</td>
<td>200</td>
<td>20%</td>
</tr>
<tr>
<td>Final Exam (In Class)</td>
<td>200</td>
<td>20%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1000</td>
<td>100%</td>
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## Schedule of Graded Assignments

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<tr>
<th>Week</th>
<th>Assignment</th>
<th>Points</th>
<th>Due Online</th>
<th>Due In-Seat</th>
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<tbody>
<tr>
<td>1</td>
<td>In Class Activity 1</td>
<td>30</td>
<td></td>
<td>In Class</td>
</tr>
<tr>
<td></td>
<td>Discussion 1</td>
<td>10</td>
<td>Thursday/Sunday</td>
<td></td>
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<tr>
<td></td>
<td>Homework 1</td>
<td>25</td>
<td>Sunday</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Quiz 1</td>
<td>20</td>
<td>Sunday</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>In Class Activity 2</td>
<td>30</td>
<td></td>
<td>In Class</td>
</tr>
<tr>
<td></td>
<td>Discussion 2</td>
<td>10</td>
<td>Thursday/Sunday</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Homework 2</td>
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<td></td>
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<tr>
<td></td>
<td>Quiz 2</td>
<td>20</td>
<td>Sunday</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>In Class Activity 3</td>
<td>30</td>
<td></td>
<td>In Class</td>
</tr>
<tr>
<td></td>
<td>Discussion 3</td>
<td>10</td>
<td>Thursday/Sunday</td>
<td></td>
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<tr>
<td></td>
<td>Homework 3</td>
<td>25</td>
<td>Sunday</td>
<td></td>
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<td>Quiz 3</td>
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<td>4</td>
<td>In Class Activity 4</td>
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<td>In Class</td>
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<td>Midterm Exam</td>
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<td>In Class</td>
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<td></td>
<td>Quiz 4</td>
<td>20</td>
<td>Sunday</td>
<td></td>
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<td>5</td>
<td>In Class Activity 5</td>
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<td>In Class</td>
</tr>
<tr>
<td></td>
<td>Discussion 4</td>
<td>10</td>
<td>Thursday/Sunday</td>
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<tr>
<td></td>
<td>Homework 5</td>
<td>25</td>
<td>Sunday</td>
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<tr>
<td></td>
<td>Quiz 5</td>
<td>20</td>
<td>Sunday</td>
<td></td>
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</tbody>
</table>
Assignment Overview

Readings (Before Class)

All readings and lectures review should be completed prior to coming to the in-seat portion of class. You should utilize the information from the readings and incorporate it into all assignments within the course.

In Class Activities

During the in-seat portion of our class, we will have various discussions and activities that will be graded. You must be present and actively participate in the in-seat class in order to receive these points.

Discussions

Discussions are an integral part of this course and represent a significant portion of the final grade. Discussion activities are designed to help extend your learning into the real world and bridge the gap between theory and practice.

Discussion topics will be based on the chapter material defined in the weekly course schedule. You are encouraged to interact with your classmates in all discussions. Additional online discussion topics may be introduced as needed. Participation in all discussions will improve performance on Homework, Quizzes, and Exams.

Each week you will choose one discussion question from the Content area of our course. Your original post should provide the original question, your solution process explaining each step, analysis of the solution process, and the final solution. Effective posts will lead the reader through your thought processes and explain key ideas or where difficulties might arise. The goal is to move beyond “I don’t understand how to do number 32” or “Here is the answer to number 15” to looking for patterns in the problems. This will help you generalize from the particular problems to rules that apply in similar situations.

You will also respond to at least one of your classmates’ posts. Your responses should provide more than “Good post” or “I got the same answer.” Ask questions about areas that are confusing to you or where you would like to see more details about the process.
Discussion postings should be intelligible and effectively communicate the student’s idea(s). Please pay attention to use of capitalizations, misspellings, incomplete sentences, and other violations of grammatical rules. In addition, disagreement is part of discussing some topics, however, we will all adhere to using the conventions of “netiquette” (online etiquette), when conversing in the Discussion area. You may respectfully point out errors and a reference in the book or an alternative solution. The expectations and grading rubric for discussions are outlined in more detail in the course Content area.

Your Initial Post is **due by 11:59 pm Central Time (CT) on Thursday.** You must respond to at least one other student by **11:59 pm CT on Sunday.**

**Quizzes**

You will complete a quiz each week. Quizzes are multiple choice, 60 minute time period, and computer graded. You will have five attempts on each quiz during the quiz period. Use each attempt to improve your understanding of the concepts.

Your quiz must be submitted by **11:59 pm CT on Sunday of the appropriate week.**

**Homework**

You will complete homework in MyLabsPlus each week. You may rework each homework assignment until its due date. MyLabsPlus provides tools to assist you with the homework such as Show me an Example or Help Me Solve It. If you use these tools, you will have to complete a similar problem without using the tools in order to receive credit for the problem. You may rework each homework exercise until you get it correct by selecting “similar exercise” at the bottom of the screen.

Homework scores are not recorded weekly since you have the opportunity to complete missed homework for credit after the due date. Your final percentage in MyLabsPlus is applies to the 200 Homework points.

You must complete your homework by **11:59 pm CT on Sunday of the appropriate week.**

**Midterm and Final Exam**

There will be a Midterm and a Final Exam. Both exams will be given in class. Each exam will have a 2-hour time limit.

The **Midterm Exam** will be given during Week 4 during the In Class session.

The **Final Exam** will be given during Week 8 during the In Class session.

**Course Schedule**

*Week 1: Functions, Graphs, Models, and Linear Functions*

**Readings (Before Class)**

- Sections 1.1 – 1.4

**In Class Activity 1**

During the in-seat portion of our class, we will have various discussions and activities that will be graded. You must be present and actively participate in the in-seat class in order to receive these points.

**Discussion 1 (Online)**
All discussions take place in the Discussions area of the course. Week 1’s discussion topics are listed under the Week 1 forum. You are to post to one Discussion question and respond to at least one classmate.

Your initial discussion response is due by 11:59 pm CT on Thursday. Your response to at least one classmate's posts is due by 11:59 pm CT on Sunday.

Homework 1
Homework 1 is available in the MyLabsPlus area of the course. See the Content area for more information about access MyLabsPlus.

This week's homework is due by 11:59 pm on Sunday.

Quiz 1
Quiz 1 is located in the Quizzes area and must be completed by 11:59 pm CT on Sunday.

**Week 2: Linear Models, Equations, and Inequalities**

**Readings (Before Class)**
- Sections 2.1 – 2.4

**In Class Activity 2**
During the in-seat portion of our class, we will have various discussions and activities that will be graded. You must be present and actively participate in the in-seat class in order to receive these points.

**Discussion 2 (Online)**
All discussions take place in the Discussions area of the course. Week 2’s discussion topics are listed under the Week 2 forum. You are to post to one Discussion question and respond to at least one classmate.

Your initial discussion response is due by 11:59 pm CT on Thursday. Your response to at least one classmate's posts is due by 11:59 pm CT on Sunday.

**Homework 2**
Homework 2 is available in the MyLabsPlus area of the course. See the Content area for more information about access MyLabsPlus.

This week's homework is due by 11:59 pm on Sunday.

Quiz 2
Quiz 2 is located in the Quizzes area and must be completed by 11:59 pm CT on Sunday.

**Week 3: Quadratic and Power Functions**

**Readings (Before Class)**
- Sections 3.1, 3.2, 3.4

**In Class Activity 3**
During the in-seat portion of our class, we will have various discussions and activities that will be graded. You must be present and actively participate in the in-seat class in order to receive these points.
Discussion 3 (Online)

All discussions take place in the Discussions area of the course. Week 3’s discussion topics are listed under the Week 3 forum. You are to post to one Discussion question and respond to at least one classmate.

Your initial discussion response is due by 11:59 pm CT on Thursday. Your response to at least one classmate's posts is due by 11:59 pm CT on Sunday.

Homework 3

Homework 3 is available in the MyLabsPlus area of the course. See the Content area for more information about access MyLabsPlus.

This week's homework is due by 11:59 pm on Sunday.

Quiz 3

Quiz 3 is located in the Quizzes area and must be completed by 11:59 pm CT on Sunday.

Week 4: Review for Midterm

Readings (Before Class)

- Reread Chapters 1 - 3

Homework 4

Homework 4 is available in the MyLabsPlus area of the course. See the Content area for more information about access MyLabsPlus.

This week's homework is due by 11:59 pm on Sunday.

Quiz 4

Quiz 4 is located in the Quizzes area and must be completed by 11:59 pm CT on Sunday.

Midterm Exam

The Midterm Exam will be given during the in-seat class this week. Your Final Exam will cover material from Chapters 1-3. You will have two hours to complete the exam.

Week 5: Combining Functions; Composite, One-to-One, Inverse, and Exponential Functions

Readings (Before Class)

- Sections 4.2, 4.3, and 5.1

In Class Activity 4

During the in-seat portion of our class, we will have various discussions and activities that will be graded. You must be present and actively participate in the in-seat class in order to receive these points.

Discussion 5 (Online)

All discussions take place in the Discussions area of the course. Week 5’s discussion topics are listed under the Week 5 forum. You are to post to one Discussion question and respond to at least one classmate.

Your initial discussion response is due by 11:59 pm CT on Thursday. Your response to at least one classmate's posts is due by 11:59 pm CT on Sunday.
Homework 5
Homework 5 is available in the MyLabsPlus area of the course. See the Content area for more information about access MyLabsPlus.

This week's homework is due by 11:59 pm on Sunday.

Quiz 5
Quiz 5 is located in the Quizzes area and must be completed by 11:59 pm CT on Sunday.

Week 6: Logarithmic Functions; Exponential and Logarithmic Equations and Models

Readings (Before Class)

- Sections 5.2 – 5.4

In Class Activity 5
During the in-seat portion of our class, we will have various discussions and activities that will be graded. You must be present and actively participate in the in-seat class in order to receive these points.

Discussion 6 (Online)
All discussions take place in the Discussions area of the course. Week 6’s discussion topics are listed under the Week 6 forum. You are to post to one Discussion question and respond to at least one classmate.

Your initial discussion response is due by 11:59 pm CT on Thursday. Your response to at least one classmate's posts is due by 11:59 pm CT on Sunday.

Homework 6
Homework 6 is available in the MyLabsPlus area of the course. See the Content area for more information about access MyLabsPlus.

This week's homework is due by 11:59 pm on Sunday.

Quiz 6
Quiz 6 is located in the Quizzes area and must be completed by 11:59 pm CT on Sunday.

Week 7: Higher Degree Polynomials; Rational Functions; Polynomial and Rational Equations

Readings (Before Class)

- Sections 6.1, 6.3, 6.5

In Class Activity 6
During the in-seat portion of our class, we will have various discussions and activities that will be graded. You must be present and actively participate in the in-seat class in order to receive these points.

Discussion 7 (Online)
All discussions take place in the Discussions area of the course. Week 7’s discussion topics are listed under the Week 7 forum. You are to post to one Discussion question and respond to at least one classmate.

Your initial discussion response is due by 11:59 pm CT on Thursday. Your response to at least one classmate's posts is due by 11:59 pm CT on Sunday.
Homework 7
Homework 7 is available in the MyLabsPlus area of the course. See the Content area for more information about access MyLabsPlus.
This week's homework is due **by 11:59 pm on Sunday**.

Quiz 7
Quiz 7 is located in the Quizzes area and must be completed **by 11:59 pm CT on Sunday**.

Week 8: Review for Final Exam

Readings (Before Class)
- Reread Chapters 1 - 6

In Class Activity 8
During the in-seat portion of our class, we will have various discussions and activities that will be graded. You must be present and actively participate in the in-seat class in order to receive these points.

Homework 8
Homework 8 is available in the MyLabsPlus area of the course. See the Content area for more information about access MyLabsPlus.
This week's homework is due **by 11:59 pm on Saturday**.

Quiz 8
Quiz 8 is located in the Quizzes area and must be completed **by 11:59 pm CT on Saturday**.

Final Exam
The Final Exam will be given **during the in-seat class this week**. Your Final Exam will cover material from Chapters 1-6. You will have two hours to complete the exam.

Course Policies

Student Conduct
All Columbia College students, whether enrolled in a land-based or online course, are responsible for behaving in a manner consistent with Columbia College's [Student Conduct Code](#) and [Acceptable Use Policy](#). Students violating these policies will be referred to the office of Student Affairs and/or the office of Academic Affairs for possible disciplinary action. The Student Code of Conduct and the Computer Use Policy for students can be found in the Columbia College [Student Handbook](#). The [Handbook](#) is available online; you can also obtain a copy by calling the Student Affairs office (Campus Life) at 573-875-7400. The teacher maintains the right to manage a positive learning environment, and all students must adhere to the conventions of online etiquette.

Plagiarism
Your grade will be based in large part on the originality of your ideas and your written presentation of these ideas. Presenting the words, ideas, or expression of another in any form as your own is plagiarism. Students who fail to properly give credit for information contained in their written work (papers, journals, exams, etc.) are violating the intellectual property rights of the original author. For proper citation of the original authors, you should reference the appropriate publication manual for your degree program or course (APA, MLA, etc.). Violations are taken seriously in higher education and
may result in a failing grade on the assignment, a grade of "F" for the course, or dismissal from the College.

Collaboration conducted between students without prior permission from the instructor is considered plagiarism and will be treated as such. Spouses and roommates taking the same course should be particularly careful.

All required papers may be submitted for textual similarity review to Turnitin.com for the detection of plagiarism. All submitted papers may be included in the Turnitin.com reference database for the purpose of detecting plagiarism. This service is subject to the Terms and Conditions of Use posted on the Turnitin.com site.

A plagiarism tutorial is located in the content area of the D2L website. Additionally, work that was completed in a prior course and submitted in the current course will not be accepted.

**Non-Discrimination**

There will be no discrimination on the basis of sex, race, color, national origin, sexual orientation, religion, ideology, political affiliation, veteran status, age, physical handicap, or marital status.

**Disability Services**

Students with documented disabilities who may need academic services for this course are required to register with the Coordinator for Disability Services at (573) 875-7626. Until the student has been cleared through the disability services office, accommodations do not have to be granted. If you are a student who has a documented disability, it is important for you to read the entire syllabus before enrolling in the course. The structure or the content of the course may make an accommodation not feasible.

**Attendance Policy**

Attendance for a week will be counted as having submitted a course assignment for which points have been earned during that week of the session or if the proctoring information has been submitted or the plagiarism quiz taken if there is no other assignment due that week. A class week is defined as the period of time between Monday and Sunday (except for Week 8, when the week ends in accordance with the campus end date). The course and system deadlines are all based on the Central Time Zone.

**Email**

All students are provided a CougarMail account when they enroll in classes at Columbia College. You are responsible for monitoring email from that account for important messages from the College and from your instructor. You may forward your Cougar email account to another account; however, the College cannot be held responsible for breaches in security or service interruptions with other email providers.

Students should use email for private messages to the instructor and other students. The class discussions are for public messages so the class members can each see what others have to say about any given topic and respond.

**Late Assignment Policy**

A hybrid class requires regular participation and a commitment to your instructor and your classmates to regularly engage in the reading, discussion and writing assignments. Although most of the communication for this course is asynchronous, you must be able to commit to the schedule of work for the class for the next eight weeks. You must keep up with the schedule of reading and writing to successfully complete the class.
Course Evaluation

You will have an opportunity to evaluate the course near the end of the session. Course evaluations will open on Sunday of Week 5 and will remain open until Thursday of Week 7. A link will be sent to your CougarMail that will allow you to access the evaluation. Be assured that the evaluations are anonymous and that your instructor will not be able to see them until after final grades are submitted.

Additional Resources

Orientation for New Students

This course is offered online, using course management software provided by Desire2Learn and Columbia College. The Student Manual provides details about taking an online course at Columbia College. You may also want to visit the course demonstration to view a sample course before this one opens.

Technical Support

If you have problems accessing the course or posting your assignments, contact your instructor, the Columbia College Helpdesk, or the D2L Helpdesk for assistance. Contact information is also available within the online course environment.

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<th><a href="mailto:CCHelpDesk@ccis.edu">CCHelpDesk@ccis.edu</a></th>
<th><a href="mailto:helpdesk@desire2learn.com">helpdesk@desire2learn.com</a></th>
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</thead>
<tbody>
<tr>
<td>800-231-2391 ex. 4357</td>
<td>877-325-7778</td>
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Online Tutoring

Smarthinking is a free online tutoring service available to all Columbia College students. Smarthinking provides real-time online tutoring and homework help for Math, English, and Writing. The Writing Center can be used for writing assistance in any course.

Smarthinking also provides access to live tutorials in writing and math, as well as a full range of study resources, including writing manuals, sample problems, and study skills manuals. You can access the service from wherever you have a Connection to the Internet. I encourage you to take advantage of this free service provided by the college.

Access Smarthinking through CougarTrack under Students->Academics->Academic Resources.