Northland *Course Syllabus* Spr25 MATH 1110 College Algebra

Credit Hours: 3 Lecture **Prerequisite:** Math 0098 or placement **Co-Requisite:** Math 0110 optional
Minnesota Transfer Curriculum- Goal Area 4
Course Information:

Instructor: ***Dr. Mike Simmers*** E-mail: ***mike.simmers@northlandcollege.edu***
Office: ***EGF 155C TRF 245A*** Phone: ***218-793-2723***

Office hours: TH 1:00 – 2:00 p.m. TRF office; TH 9:00 – 10:00 a.m. EGF office, or by other appointment. I am free a lot of other times, just let me know when you need me, and we can determine meeting times. Feel free to email me any questions also. We can set up ZOOM meeting also, instead of meeting in my office.
Please address any email correspondence respectfully with Dr. or Mr. Simmers. Thank you.

Class Information: In-Person with Hyflex option

Section 01 : Room 150 EGF Days: MWF Time: 10:00 to 10:50 pm CST Final: see course schedule
Section 11: Room 515 TRF Days: TH Time: 2:00 to 3:20 pm CST Final: see course schedule

Life Statement

We are all human, and with that, bound to encounter human struggles in our daily and educational journeys.
I know "life" struggles occur at unexpected moments. I had a daughter pass away, from a very rare viral infection, when I was in school completing degrees.
If "life" gets in your way throughout this semester, please feel free to chat with me or any Northland personnel. Northland has plenty of people/programs to help students through trying times.
Tests can be taken at a later date and due dates can be revised, take care of yourself and family first and foremost.

Learner Outcomes: In the process of completing all required work, the student will be able to:

1. The learner will have the ability to perform operations on a variety of equations and inequalities (linear, quadratic, rational).
2. The learner will have the ability to perform operations using complex numbers.
3. The learner will have the ability to graph a variety of equations and inequalities (linear, quadratic, rational).
4. The learner will have the ability to recognize function notation and perform operations on functions.
5. The learner will be able to calculate the vertex of a quadratic equation and determine whether the vertex is a maximum or minimum.
6. The learner will have the ability to describe and graph translations of a base function.
7. The learner will have the ability to determine the zeros of a polynomial along with other characteristics of polynomials that enable the learner to sketch the graph of a polynomial.
8. The learner will have the ability to solve exponential and logarithmic equations.
9. The learner will be able to solve a system of equations by applying various techniques (i.e. Gaussian Elimination.)
10. (IOL: 2) Employ creativity and effective problem-solving skills in a variety of mathematical contexts.

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Course Description: This course covers basic algebraic operations, linear and quadratic equations and inequalities, functions and their graphs, theory of equations, rational equations, exponential and logarithmic functions, systems of equations, and binomial expansion. Students who have taken Math 1113 will not receive credit for this course.
Prerequisite(s): A grade of "C" or better in Math 0094 or Math 0098; or an appropriate placement test score on the Elementary Algebra section of the Accuplacer placement test.

Text:

https://openstax.org/details/books/college-algebra-corequisite-support
Open Educational Resources (OER): CollegeAlgebra-Openstax.pdf section 9.6, chapters 3, 5-7, various Internet resources, Kahn Academy, Wolframalpha.

If you want to rent or buy another really good reference book for our College Algebra course, some pertinent information is listed below.
College Algebra 6e, Blitzer, Pearson Education, 2014. ISBN-13: 978-0-321-78228-1

Methods of Assessing Student Learning: Assessment will be based on but not limited to: homework, quizzes, tests, and other math activities and exercises.

All tests must be taken during the assigned class period on the assigned test date. NON-GRAPHING Calculators are permitted in this course.

Course Structure

This course will be facilitated through a combination of class meetings and material posted on D2L Brightspace. Our D2L website can be accessed through the Northland website or this direct link: https://nctc.learn.minnstate.edu/d2l/login Announcements will also be made through the D2L site.

Course Policies

Presence and Participation

- Attendance is optional but strongly recommended (Zoom attendance and videos are available)

Classroom Climate Expectations

- Treat others as you would like to be treated. Please keep non-subject discussions to a minimal during instruction time, not to interrupt others' opportunity to learn.

Deadlines and Late Submissions

- If one needs to miss a test (for whatever reason), make sure to inform Dr. Simmers BEFORE the scheduled date via email or phone message. Missed tests must be scheduled with the instructor outside the assigned class period and made up within one week of the assigned test date. Failure to make up a test will result in a ZERO on the missed test.

Course Expectations

What you can expect from me

- Enthusiastic, knowledgeable, and in-depth instruction
- Approachability in and out of class for questions/comments
- Availability in and outside office hours with personal or group Zoom sessions available
- Turn-around time for graded test as quick as possible with instructional comments

What I expect from you

- Commitment to one's education, time and effort are required in learning. Even more so in the learning of mathematics.

Best Practices for Course Learning
Learning how to learn effectively is a skill unto itself! To get the most out of our course learning experience, I recommend the following:

- If possible, attend all class meetings and be fully present and engaged.
- Take notes on what you read, either directly in the book or somewhere else, and jot down all your questions.
- Test yourself on what you have read by trying to summarize key points without looking back at the text.
- Ask questions! During class, in office hours, and asynchronously over email or D2L Brightspace.

Student Handbook Link
The handbook contains the policies and procedures that relate to many aspects of your life as a student at Northland. Whether you study on campus or online, membership in the Northland community brings the responsibility of becoming familiar with these policies.
https://www.northlandcollege.edu/students/student-handbook/

Academic Accommodations
Northland Community & Technical College is committed to providing equitable access to learning opportunities for all students. If you are a student with a short-term or long-term disability and need reasonable accommodation to participate in class and complete course requirements, contact the Academic Success Center (ASC) as soon as possible. The ASC works with students confidentially and does not disclose any disability-related information without their permission. For further information about services for students with disabilities, contact the ASC at 218-683-8561 or visit office 205 on the Thief River Falls campus or 580D on the East Grand Forks campus.

Cory Floden, Interim Director of Academic Success Center
Cory.floden@northlandcollege.edu
218-793-2446

Chris Fossum, Accommodations Specialist
Chris.Fossum@northlandcollege.edu
218-686-8564

Tutoring
The Academic Success Center offers tutoring to all Northland students free of charge. Tutors work in office suite 205 on the Thief River Falls campus, offices 578, 579, and 580 on the East Grand Forks campus, or online via Zoom. Students can register for a tutor account here: https://northlandcollege.mywconline.com/

Basic Needs Statement
Students encountering difficulties in meeting their fundamental needs are encouraged to connect with Northland staff and instructors. These essential needs may include housing, mental and physical well-being, food insecurity, safety, and financial issues. Beyond the familiar faces you regularly encounter, Northland offers the support of a Dean of Students and a Counselor. We strongly encourage you to reach out to someone at Northland; we are here to assist you.

Counselor, Rebecca Johnson	218-683-8543
Interim Dean of Student Success, Sara Johnson	218-683-8560

https://www.northlandcollege.edu/students/student-basic-needs/
https://www.northlandcollege.edu/about/offices/counseling-services/

Diversity Statement

It is an integral part of Northland Community & Technical College's mission to acknowledge, understand, value, and celebrate the diverse heritage, cultures, and individuals within our learning environment and communities. The college views diversity as an essential component of the educational experience of our students. Diversity is an indicator of our success in adapting to the dramatic demographic shifts that will occur in the decades ahead.

Mental Health Statement

Students may experience stressors that impact their personal well-being and academic success. Northland students have access to counseling services via the Northland counselor and can utilize these services for mental health support, academic support, career development guidance, and much more. For more information on these services, visit https://www.northlandcollege.edu/about/offices/counseling-services/. Students seeking immediate mental health support should contact the mental health support line at 9-8-8.

Academic Dishonesty Statement

Policy 3072: Academic dishonesty refers to misconduct related to academic assignments or examinations, plagiarizing or other misconduct directly related to the academic learning experience. Plagiarism is the unacknowledged use of another person's work (either word for word or in the substance of an idea) as one's own work. Plagiarism, cheating, and possession and/or distribution of un-administered examinations may be handled as a scholastic matter (i.e., failing the assignment and/or the course) or as a disciplinary matter in accordance with the Student Code of Conduct. Academic dishonesty or cheating includes, but is not limited to:

- Copying from another student's test paper and/or collaborating during a test with any other person by giving or receiving information without authority; using materials during a test not authorized by the instructor.
- Stealing, buying, or otherwise obtaining all or part of an un-administered test or information about said test.
- Selling, giving, or otherwise supplying to another student for use in fulfilling an academic requirement, any theme, report, term paper, painting, drawing, sculpture, or other work of art; or submitting as one's own, in fulfillment of an academic requirement, any theme, report, term paper, essay, or other written work, painting, drawing, sculpture, or other work prepared totally or in part by another.
- Submitting nearly identical work that one has previously offered for credit in another course, without prior approval by the instructor.

Reports of academic dishonesty are filed with and reviewed by the designated Academic Affairs Administrator in accordance with Procedure 3072P.

Course content/testing schedule: See D2L Brightspace course shell under "Materials", then "Content".

***NON-GRAPHING Calculators are allowed on chapter assessments, points for each problem will be awarded based on the quality of work (steps) shown on each assessment. Partial credit is awarded for each problem, again, based on the quality of work (steps) shown.

NOTE: I have incorporated earning a possible 1 extra credit points per D2L Brightspace quiz/assignment. So, one can score 6 points out of 5 for each D2L Brightspace assignment if all questions are answered correctly.

Tentative points (Subject to adjustments throughout the semester as we deem appropriate)

	D2L assessments/quizzes	In-class Assessment
SEL Attitudes survey	10 pts	
SEL Unit 7 discussion	10 pts	
SEL Unit 3 discussion	10 pts	
SEL Unit 5.2-5.5a discussion	10 pts	
SEL Unit 5.1, 5.6, 5.6a discussion	10 pts	
SEL Unit 6 discussion	10 pts	
Unit 9.6	1 @ 5 pts per 5	Only unit 9.6 20 pts
Unit 3	7@ 5 pts per 35	150 pts
Unit 5	7 @ 5 pts per 35	250 pts (100pts 5.2-5.5a, 150pts 5.1, 5.6, 5.6a)
Unit 6	3 @ 5 pts per 15	150 pts
Unit 7	3 @ 5 pts per 15	150 pts
Comprehensive final		150 pts
Totals	165 pts	870 pts

Grading

Grades will be based on a percentage of points earned out of total points (1035 tentatively) possible.

percentage	grade
90% and above	A
80% - 89%	B
70% - 79%	C
60% - 69%	D
Less than 60%	F

- Weekly homework/quiz assignments will be multiple choice and taken on D2L Brightspace. These will not be proctored but have a date constraint of the last day of scheduled classes. Feel free to print them off and work on them before submitting your answers. **REMEMBER, TWO SUBMISSIONS ARE ALLOWED** for each assessment. You are allowed to use any resources available to complete the online assignments. **ALSO REMEMBER THAT THE QUIZZES HAVE A DEADLINE DATE. NO SUBMISSIONS WILL BE ALLOWED AFTER THE DEADLINES. Unit 2 quizzes are optional (they could help one's overall grade, but be careful, they could hurt one's overall grade depending on score received).**
- Unit assessments and the final assessment will be open response questions (detailed, neat work must be evident for any credit on each problem). Partial credit is awarded for each problem, again, based on the quality of work (steps) shown.
- If class is canceled (rare), students will be notified though Northland's email.

MATHEMATICS

Mathematics is a creation of the human mind.
There is no such thing as a 1, only someone's representation of an idea.
If mathematics is a creation of the human mind, it must be accessible and doable for all.
Note that difficult does not mean undoable.

Qualities (commitment, hard work ethic) that make one good at anything will also make one good at mathematics.

My 4 P's of mathematics:
Patience
Persistence
(com)Passion
Practice

The MIND is the BEST manipulative; we intend to use it in this class.

This course is about committing to your own education, becoming an independent learner, open-mindedness, thinking, asking questions, expanding your knowledge base. I will assist you to the best of my abilities, answering questions and providing encouragement, for this course is about the educational experience and journey, not the destination. Most of all, it is about having FUN and not worrying about if the answer is right. Wrong answers are a path to correct answers. Commitment and preparation will lead to correct solutions.

Do not worry about your difficulties in Mathematics. I can assure you mine are still greater.
Albert Einstein (1879 – 1955)

Aristotle may have said it best:
We are what we repeatedly do.
Excellence, then is not an act,
But a habit.

What is important to the study of mathematics? Know the processes for types of problems and be able to recognize, categorize and distinguish the types of problems, then most mathematics is reduced to adding, subtracting, multiplying and dividing.

We cannot teach people anything;
We can only help them discover it within themselves. –Galileo-

"The Man In The Glass"

When you get what you want in the struggle for self
and the world makes you king for a day
Just go to the mirror and look at yourself
and see what that man has to say

For it isn't your father or mother or wife
who judgment upon you must pass
The fellow whose verdict counts most in your life
is the one staring back from the glass

Some people may think you're a straight shootin' chum
and call you a wonderful guy
But the man in the glass says you're only a bum
if you can't look him straight in the eye

You can fool the whole world down the pathways of life
and get pats on your back as you pass
But your final reward will be heartaches and tears
if you've cheated the man in the glass

He's the fellow to please, never mind the rest
for he's with you clear to the end
and you've passed your most dangerous, difficult test
if the man in the glass is your friend

Dale Wimbrow

Good luck and have a great semester!

(luck favors the prepared; when one works, one does not need luck)

Simmers' introductory notes for Online/campus College Algebra

- Email is the official mode of communication for Northland. Please check your Northland email account regularly for updates, etc. Online courses are basically self-taught with using a variety of resources.
- **Proctor doc.s**
  Proctors are needed by every online student to administer and oversee testing. For OCHS students, your school will provide me with the individual Proctor's contact information.

  For online students, there is a "pre-approved proctor list" located under "Materials" and then "Content" in our D2L Brightspace course shell. Please send me your proctor's information using the "PROCTOR FORM Simmers" located under "Materials" and then "Content" in our D2L Brightspace course shell.

- **Syllabus**
  Please carefully read through the entire syllabus. Pay close attention to the areas listed below:
  - **Weekly content coverage/testing schedule**
    - Week by week schedule of content covered and unit testing dates
  - **Quizzes**
    - Located in D2L Brightspace under "Assessments" and the "Quizzes". There are multiple quizzes for each unit that are required to be completed and submitted through D2L brightspace. These work as our "daily homework", are open until 11:30 p.m., the Sunday before finals week. There is one-point extra credit built into each quiz so one can score 6 out of 5 on each quiz. Two attempts are given for each quiz and students can use any resources available to complete the quizzes. Any quiz that is not submitted by deadline will receive a score of 0 out of 5, so make sure to get your quizzes done as you cover the material.
    - Quizzes start with unit 9.6. The unit 2 quizzes are optional. Do as many or as few as you wish. They can help out one's grade if one scores well on them, but they could hurt one's grade if one does poorly.
  - **Tests**
    - Read through the test schedule in the syllabus. Tests are pencil and paper with open-ended computational questions (NOT multiple choice). Showing one's work containing mathematically correct procedures are required for each problem. Partial credit is given for each problem depending on the correctness of the steps and mathematical procedures displayed by the student. The 9.6 assessment will be taken as an online assessment this semester.
    - Each student will have a one-day period to complete each test with his/her proctor. Tests will be sent to proctors prior to testing weeks. Make sure you get me your proctor's contact information as soon as possible. Please give your proctor "ample warning" of when you want to schedule the date and time for each test.
    - Proctors will be instructed to allow 90 minutes for each test, two hours for the final. If you have accommodations, I will need a copy of the paperwork certifying such stipulations.

- One's phone cannot be used as a calculator for this course (I have caught students looking up stuff on the internet when I did allow this as a courtesy to students, so yes, a few bad apples can spoil it for the whole bunch). A simple scientific

Simmers' introductory notes for online/campus College Algebra

- calculator is all that is needed for this course, and I challenge each of you to use a calculator sparingly, develop your mind, it is the best calculator.

- **Grading**
  - Refer to the syllabus for points and grading criteria
  - The only graded portions of this course are: 1) the D2L Brightspace quizzes completed, submitted, and graded through D2L and 2) the proctored tests (nothing is sent to me by the student except for one's proctor information).

Course Resources

- **Books**
  - This is an Open Educational Resource (OER) course, so no textbook is required.
    - If one does want a hard copy text, one is listed below and in the syllabus that I used for many semesters in this course, and it aligns well with the content covered in this course.

      College Algebra 6e, Blitzer, Pearson Education, 2014. ISBN-13: 978-0-321-78228-1

  - An OER text is linked to each "MS Word Student Unit Note Outlines". See below for more information.

- **Student content notes**
  - Found in our D2L Brightspace course shell under "Materials" then "Content" and then "pdf student note outlines by unit".
  - The student content notes are available, by units (9.6, 3, 5, 6, 7) in pdf form.
  - These are structured content outlines, written by Dr. Simmers, for each unit of material covered in the course. These notes have blanks, practice problems, and areas for students to write down techniques and strategies for doing types of mathematical problems. One can use any resources available to "fill in" the student content notes, see next item below.

- **MY content notes**
  - Found in our D2L Brightspace course shell under "Materials" then "Content" and then "MY pdf notes outlines by unit"
  - These are a "FILLED IN" version of the student content notes. These were completed by Dr. Simmers and can be used as our MAIN resource/an "OER text" and study guide for filling in your student notes and checking answers on the practice problems.

- **OER text**
  - https://openstax.org/details/books/college-algebra-corequisite-support
- **Studying suggestions**
  - My suggestion would be to print off a copy of the blank student notes, fill them out as you watch the videos, use the MY filled-out notes to fill in anything you missed while watching the videos, and work on the quiz problems as you go over each section.

- **ZOOM videos**
  - Videos I made covering the content notes

Simmers' introductory notes for online/campus College Algebra

- **Other internet resources**
  - I recommend Kahn Academy, https://www.khanacademy.org/. Please let me know if you have other favorite math sites that other students can use as a benefit to acquire mathematics knowledge.
- **Practice problems/tests**
  There are multiple sets of practice problems and keys located under "Materials" and then "Content" in our D2L Brightspace course shell.

- Go through all the documents listed under "Materials" and then "Content" in our D2L Brightspace course shell.
  Please let me know if you have any questions. Enjoy and have FUN throughout the semester.

Other comments:

1. Working on 7.1 problems, the book answers have a different representation for infinite solutions, same line. It uses the form (x, f(x)).

   The book has represented infinite solutions in a different form. Consider the system of equations -2x + 4y = 6 and x - 2y = -3. Solving this system, one gets 0 = 0, infinite solutions, same line. Note how the second equation, can be solved for y to get y = (x + 3)/2. Since there are infinite solutions, for any x, y = (x + 3)/2. Writing this as an ordered pair, we get the infinite solutions (x, (x + 3)/2). For tests, you do not have to write it this way, just inform me there are infinite solutions and the equations represent the same line.
2. The ZOOM videos are labeled correctly for the current book sections but the actual videos were recorded under the old book number sequences. Make sure you are watching the right one for content coverage and disregard the sectional numbers referenced in the videos.